

# **2025 IEEE Global Engineering Education Conference (EDUCON 2025)**

**London, United Kingdom  
22-25 April 2025**

**Pages 1-575**



**IEEE Catalog Number: CFP25EDU-POD  
ISBN: 979-8-3315-3950-4**

**Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP25EDU-POD
ISBN (Print-On-Demand):	979-8-3315-3950-4
ISBN (Online):	979-8-3315-3949-8
ISSN:	2165-9559

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## TABLE OF CONTENTS

An Example of How Agile Project Work Could Be Implemented in the Interdisciplinary Fields of Engineering .....	1
<i>Claudia Luppertz, Irene Rothe, Corinna Thomser</i>	
Learning to 'Think' Through Playful Interactions: A Play-Kit for Incoming First-Year Computing Students .....	4
<i>Neil Anderson, Maria Angela Ferrario, Aidan McGowan, Matthew Collins, Jonathan W. Browning, Leo Galway, Philip Hanna, David Cutting, Darryl Stewart</i>	
Integration of Learning Outcomes for Stem Laboratories into a New Learning Outcome Catalogue.....	7
<i>Marcus Soll, Louis Kobras, Konrad Boettcher, Nils Kaufhold, Marcel Schade, Claudius Terkowsky, Pierre Helbing, Ines Aubel, Doreen Kaiser</i>	
A Comparative Study of VR and 2D Plans in Concrete Structure Evaluation for Engineering Education: Does Perceived Usability Affect Performance? .....	17
<i>Mohamad Iyad Al-Khiami, Sayed Mohamad Soleimani, Martin Jaeger</i>	
Quantum Legacy in the Hands of Secondary School Students to Implement Quantum Literacy Through Quantum Computing.....	24
<i>Aspasia V. Oikonomou, Ilias K. Savvas</i>	
Exploring Instructor Presence, Slide Content Variation, and Answer Cue Presentation Modes on Cognitive Load and Learning in Video-Based Learning Environments .....	33
<i>Yuli Sutoto Nugroho, Marie-Luce Bourguet, Hamit Soyel, Isabelle Mareschal</i>	
Enhancing Enrollment and Participation in Computing Ethics Through CIRCLE: Cross-Campus Responsible Computing Learning Experiences .....	38
<i>Nada Attar, Souvick Ghosh, Michele A. L. Villagran, Darra Hofman</i>	
Project-Based Learning Center to Build Skills in Creative Problem Solving in Engineering Education.....	42
<i>Mary Foss, Taylor Foss, David Ferro</i>	
Evaluating the Correlation Between Social Robot NAO and Preschoolers' Socio-Emotional and Cognitive Skills .....	49
<i>Michalis Feidakis, Charalampia Karakechagia, Vasiliki Marina Sini, Errika-Christina Chasou, Angelos Antikatzidis, Grigorios Nikolaou</i>	
AcoustiFly: An Open-Source, Low-Cost Acoustic Levitator for Hands-On STEM Education.....	58
<i>Mark Suppelt, Sven Suppelt, Jan Helge Dörsam, Alexander A. Altmann, Mario Kupnik</i>	
Unseen Barriers: The Persistent Reality of Gender Discrimination in Education and the Workplace in Engineering Fields.....	63
<i>Sophie Wang, Qiping Zhang</i>	
The Universe for All: Hands-On Modern Physics for STEM Educators.....	72
<i>T. P. Nantsou, S. Katsanevas, C. Sofianopoulou, N. Tracas, G. S. Tombras, Andromachi Tsirou</i>	
Strategies to Map Education 5.0 and Industry 5.0 in the Context of a Modernized Undergraduate Program in Chemical Engineering .....	82
<i>Daniela Galatro, Sourojeet Chakraborty</i>	

Pirates of the Sea++: A Serious Game for Computer Science Education.....	91
<i>Walker Cherry, Rasha Morsi, Desideria Hacker</i>	
Applying the Living Lab Methodology for Evidence-Based Educational Technologies.....	98
<i>Luis F. Morán-Mirabal, J. Alejandra Ruiz-Ramírez, Antonio A. González-Grez, Sergio N. Torres-Rodríguez, Héctor G. Ceballos</i>	
Drones in Electronics Engineering and AI-Driven Robotics Courses: Hands-on Lab Concepts.....	107
<i>Florian Wimmer, Simon Schwaiger, Christian Fibich</i>	
Artificial Intelligence (AI) Equality in Engineering Education: Strategies to Unite the AI Gap Between the Global North & South.....	112
<i>Sourojeet Chakraborty, Daniela Galatro</i>	
Implementation of Multimodal Laboratory Courses for the Education of Basic Electrical Engineering .....	122
<i>Phil Meier, Tim Rohkohl, Shouqiang Yang, Thorsten Uelzen</i>	
Enhancing Student-Centered Learning Environments: A Data-Driven Approach to Hybrid Lecture Room Classification and Resource Allocation .....	127
<i>Kay Berkling, Hui Li, Konstanze Alex</i>	
Engineering Leadership Excellence: An Innovative Dual Degree Undergraduate Program .....	137
<i>Lesley Strawderman, Brian Smith, Jenna Johnson, Adam Piper, Josie Guerry, Holly Potts</i>	
Using a Digital Learning Platform to Support Inclusive Learning of Chemistry at the University Level.....	142
<i>Laura Eugenia Romero Robles, Angel Hernández-Aguirre, Isaen Berenice Dzul Bautista</i>	
Gamified and Adaptive Learning System Codey for Learning Programming.....	149
<i>Toni Ivankovic, Tomislav Jaguš, Ana Vrcelj Božic, Nataša Hoic-Božic</i>	
Exploring Grit as a Prime Success Factor in First - Year Engineering Education at Egyptian Higher Education Institutions.....	154
<i>Wassim Alexan, Mariam Makramalla, Ibrahim M. Karkouti</i>	
Forecasting Postgraduate Student Success: A Multivariate Regression Approach to Enhancing Academic and Professional Outcomes .....	157
<i>Wassim Alexan, Dina Reda El-Damak</i>	
Enhancing Form-One Students' Higher Order Thinking Skills (HOTS) Through the GeoGebra-Assisted Contextual Learning Strategy.....	160
<i>Abdul Halim Abdullah, Sharifah Nurarfah S. Abd Rahman, Nor Hasniza Ibrahim, Mohd Hilmi Hamzah</i>	
Introducing Environmental Sustainability in an RF and EMC Lab Course Utilizing Reusable, Recyclable and Biodegradable Circuits.....	167
<i>Norbert Seliger</i>	
An Explanatory Framework for Modelling Student Emotions in Design and Technology Education .....	176
<i>Lawrence Farrugia Caruana</i>	
A Second-Generation Agentic Framework for Generative Ai-Driven Augmented Reality Educational Games.....	185
<i>Kostas Ordoumpozanis, Hippokratis Apostolidis</i>	

Gamification of a Signals & Systems Course in Electrical Engineering to Increase Mid-Term Engagement.....	195
<i>Chinwe Nyenke Tait</i>	
Capturing and Analyzing User Interactions in Block-Based Programming with Starlogo Nova .....	200
<i>Manuel J. Gomez, Daniel Wendel, Eric Klopfer</i>	
A Comparative Study of Epistemological Beliefs and AI Chatbot Usage Among Early Adopters and Later Users in Higher Education .....	205
<i>Marcus Brändle, Tobias Bahr, Jonas Benedikt Arnold, Bernd Zinn</i>	
Top Occupations Based on a Strategic Taxonomy Framework of Future Skills for Workforce Development .....	215
<i>Jose Daniel Azofofeifa, Luis Jose Gonzalez-Gomez, Valentina Rueda-Castro, Sonia M. Gómez-Puente, Julieta Noguez, Patricia Caratozzolo</i>	
Geometrical Product Specifications (GPS): Enhancing Interdisciplinary Understanding in Teaching .....	223
<i>Alina Sersch, Christian Sauder, Tobias Steger, Peter Gust</i>	
Improving GTA Performance: An Expeditious Yet Thorough Training Program.....	227
<i>Richard Asiamah, Daniela Staiculescu, Tammy M. McCoy</i>	
Fostering Evaluative Judgement Through a Supportive Learning Environment.....	232
<i>Li Hong Idris Lim, Elliot Law, Jovan Tan</i>	
Pedagogical Framework for Programming Courses in Higher Education.....	238
<i>Reza Moosaei, Gloria Molinero</i>	
Analysis of Student Learning Depth Progression in Programming Courses Through Video Annotation.....	243
<i>Xiaonan Wang, Asako Ohno, Yi Sun, Yancong Su, Takeshi Nishida, Kazuhiro Ohtsuki, Hidenari Kiyomitsu</i>	
Software Process Tailoring and Education: Cultivating Adaptability Through Active Learning .....	253
<i>John Israilidis, Nuntikarn Sakunrunjarus</i>	
Scientific Research Model Applied to Mathematical Modeling and Prototype Construction .....	257
<i>Andrei Solórzano Perez, José M. Nieto-Jalil, Adrián Isrrael Tec Chim, Juan M. Martínez Huerta, Lucio Lopez Cavazos</i>	
Evaluation of Enhanced Programming Error Messages Generated by Large Language Models from Instructors' Point of View .....	264
<i>Luis G. J. Araujo, Roberto A. Bittencourt, Christina Von Flach</i>	
Theoretical Evaluation of a Computation Thinking Instrument for Primary School Graduates.....	274
<i>Bianca L. Santana, Roberto A. Bittencourt, Christina Von Flach</i>	
Self-Efficacy and Stress in Video Oral Assessments .....	284
<i>Claudia Hernandez Mena, Juan P. Trevino, Yamil Burguete, Edna L. Viveros-Nava, Nicolas Amado-Moranchel, Gerardo Rocha-Feregrino, Elizabeth Mena-Aviles</i>	
AI Literacy: Evaluation of an AI Literacy Course for Engineers .....	289
<i>Fernando Benites, Caspar Battegay</i>	
A Hybrid Learning Landscape About Artificial Intelligence for Teacher Trainers.....	299
<i>Tobias Bahr, Bernd Zinn</i>	

Leveraging AI Chatbots to Enhance Student Understanding of Electric Circuits .....	302
<i>Christopher Horne</i>	
Incorporating Dark Web Education into Cybersecurity Curricula.....	305
<i>Zouheir Trabelsi, Firas Saidi, Ban Alomar, Tariq Qayyum</i>	
Comparing the Impact of 3D Printing and Sensory-Based Activities on the Representation of Multivariate Functions.....	315
<i>Mariana Olivares Avalos, Christian M. Escutia-Lemus, Gibrán Sayeg-Sánchez</i>	
Development of Smart Technologies with an Entrepreneurship Focus as a Novel Engineering Teaching Model .....	322
<i>Ernesto Reyes Villegas, Luis Virgen-Navarro, María Magdalena González Pérez, María José Ju' rez Fern' ndez, Raquel S' nchez Zepeda, Luis José Orta Cortés</i>	
Integrating Sociotechnical Issues into Introductory Circuits Courses: Seven Emerging Modules.....	328
<i>Cynthia J. Finelli, Susan M. Lord</i>	
A Novel Approach to Visualisations for Computer Science Education.....	333
<i>Felix Breitwieser, Roland Wismüller</i>	
Empowering Educators: Towards a GPT-Based Approach to Automate Unit Test Generation.....	338
<i>Mohamed Elhayany, Christoph Meinel</i>	
The Intersection of Engineering Education, AI, and Women: A Review of IEEE Xplore.....	347
<i>Tina Nantsou, Genny Villa, Evangelos Dagklis, Viviana Callea, Ximena Otegui, Edmundo Tovar</i>	
Multilingual Technologies: An Interdisciplinary Master's Program Leveraging Technology for Language.....	357
<i>Sigrid Schefer-Wenzl, Igor Miladinovic, Dagmar Gromann</i>	
A User-Centric Evaluation of a Continuing Education Course Recommender System.....	362
<i>Floris Karl Scherb, Dirk Ifenthaler, Philipp Von Bachmann, Ralf Diestelkämper</i>	
Synergies Between Universities and Industry: Success Factors for Effective Collaborations Promoting Innovation.....	372
<i>Seline Löwe, Mahsa Fischer</i>	
Artificial Intelligence in Math Education of Engineers.....	382
<i>Martin Schönle</i>	
An Exploratory Study of Senior Computing UK Academic Faculty Perspectives on Academic Integrity and Student Cheating.....	391
<i>Rebecca Strachan, Emma Anderson, Cynthia Oguna, Ugochukwu Oruche</i>	
Developing Transversal Skills in Student Centered Learning Environments.....	401
<i>Maritza Peña-Becerril, Elena Rondós Casas, Pilar Morera Basuldo, Viviana Guerrero- Benalcázar</i>	
There is an App for That: Moving a Large Introductory Computer Science Course to an Automated Course Delivery System .....	409
<i>Bob Edmison, Margaret Ellis</i>	
Gamifying Arabic Mathematics Education: The Impact of Digital Learning on Student Performance and Motivation .....	414
<i>Zuraya Setmariam Moreno, Mariam Bahameish, Dena Al-Thani</i>	

Panel of Women Engineering Leaders: Shaping Inspirational Role Models for Future Generations .....	423
<i>Claudia Hernandez-Mena, Adriana E. Martínez-Cantón, Edna L. Viveros-Nava, Ericka Rodríguez Calvo, Celeste Ibarra Herrera, P. Rodríguez-Dobarganes, María Rocha Pizaña, Marco Mata Gómez, Mónica Flores-Martínez</i>	
Beyond the Board and into the Classroom: CATAN - New Energies' Potential for Climate Education.....	428
<i>Martín Esteban González-López, Paloma Barajas-álvarez, Misael Sebastián Gradilla-Hernández, Daniela Lozano-Medina</i>	
A Comprehensive Exploration of Circular Economy and Bioeconomy Principles in Graduate Bioengineering Education .....	433
<i>Misael Sebastián Gradilla-Hernández, Carolina Senés-Guerrero, Paloma Barajas-Alvarez, Martín Esteban González-López</i>	
A Special Version of a Statistical Analysis Course.....	437
<i>Abelardo E. Damy Solís, Alejandra Morales Orduño, Ulises Ojeda Sánchez, José M. Nieto-Jalil</i>	
Air Quality Project as a Multidisciplinary Method of Innovative Learning: Measurements in Guadalajara, México During 2022 .....	442
<i>Santiago Chávez Unzueta, Victor García Arriola, Estefany López Murillo, Ernesto Reyes Villegas</i>	
Detecting AI-Generated Text: A Bi-GRU with Linguistic Features Approach.....	447
<i>Abdelhadi Hireche, Saja Al-Dabet, Mohammed Mediani, Abdelkader Nasreddine Belkacem</i>	
Exploring the Role of Interprofessional Collaboration in Shaping Professional Identity in Higher Education.....	454
<i>Neasmith Laura</i>	
Basic Research Meets Engineering Studies: A Design-Based Research Approach.....	458
<i>Frank Dieball, Stefanie Meilinger, Philipp Kruppe, Florian Bahl</i>	
Lessons for GenAI Literacy from a Field Study of Human-GenAI Augmentation in the Workplace .....	466
<i>Aditya Johri, Johannes Schleiss, Nupoor Ranade</i>	
Enhancing ESCO with Generative AI: A Dynamic Approach to Supporting 21st Century Education.....	475
<i>Cédric Pruski, Marie Gallais, Marcos Da Silveira</i>	
Student Appreciation of the Flipped Classroom Despite Adaptation Challenges: A Three-Year Survey.....	480
<i>Nathalie Guilbert, Tinh-Ngoc Vo, Hai Thanh Nguyen, Phuong Le</i>	
Overcoming the Duality and Rivalry of Teaching: The Integrative Electrical Engineering Degree Program with Vocational Training Orientation.....	485
<i>Pia Kramer, Michael Bragard, Felix Hüning</i>	
ELIVE: e-Learning Laboratory for Immersive Virtual Environments .....	490
<i>Pak Ming Fan, Santawat Thanyadit, Ting-Chuen Pong</i>	
Curriculum Responsiveness in the Industry 5.0 Era.....	500
<i>Wesley Doorsamy</i>	
Biodiesel from Waste Cooking Oil: A Case Study in Introducing a Practical Approach to Undergraduate Sustainability Education Through a Student Partnership.....	505
<i>Zainab Sattar Al-Qutbi, Sara Sabra, Zahra Echrash Zadeh</i>	

Transforming Laboratories in Higher Education: An Interactive Learning Platform for Electrical Engineering Labs.....	512
<i>Sindi Veliko, Iheb Belaiba, Sebastian Koj, Sebastian Azer, Matthias Haupt</i>	
Engineering Educators' Perspectives on the Impact of Generative AI in Higher Education .....	517
<i>Umama Dewan, Ashish Hingle, Nora McDonald, Aditya Johri</i>	
Seamless Learning in Metaverse — Work in Progress Towards Conceptual Framework.....	527
<i>Martina Holenko Dlab, Marina Žunic, Kristian Stancin</i>	
Fun Until the Limits: Students' Perceptions of Design Thinking Projects with Digital Tools.....	530
<i>Isabella Possaghi, Feiran Zhang, Kshitij Sharma, Sofia Papavlasopoulou</i>	
Assessment of Algorithmic Abstraction Skills in Higher Education: An Application of the PGK Framework.....	540
<i>Xiaoling Zhang, Efthimia Aivaloglou, Michael Liut, Marcus Specht</i>	
Medical Robotics for Engineering Undergraduates Through an Affordable Hands-On Lab Experiment .....	547
<i>Sven Suppelt, Felix Herbst, Romol Chadda, Markus Hessinger, Niklas Schäfer, Matthias Rutsch, Larissa Vorpahl, Lajos Basten, Thomas Vogl, Mario Kupnik</i>	
Integrating IoT Technology in Education: Enhancing Student Engagement and Local Flood Management in Coastal Virginia .....	555
<i>Savannah L. Lynn, Venicia Ferrell, Jonathan L. Goodall</i>	
ChatGPT in Engineering Teaching & Learning: Student and Faculty Perspective.....	558
<i>Yevgeniy Lukhmanov, Asma Perveen, Mariza Tsakalerou</i>	
Work in Progress: Bridging University Technical Innovations to K-12 Classrooms Through Hands-on Activities in Plant Bioelectrics and AI .....	563
<i>Jorge Torres Gómez, Imen Bekkari, Nicolai Spicher, Carmen Peláez-Moreno, Jan Haase, Maurizio Margarini</i>	
System Reimagination in Games Engineering Education: An Instructional Approach Based on Commercial Games .....	566
<i>Tim Reichert, Nicola Marsden</i>	
Attaining Self-Directed Learning Outcomes Through Experiential Learning.....	576
<i>Li Hong Idris Lim, Andi Sudjana Putra, Jennifer Rudolph, Elliot Law, Akshay Narayan</i>	
No More Binge Learning - Using Gamification Elements to Support Distributed Practice in Engineering Education .....	582
<i>Isabel John, Anne Hess, Tobias Fertig</i>	
Fostering Innovation at the Intersection of Science and Creativity: A Case Study from Politecnico Di Milano .....	587
<i>Laura Ginestretti, Jacopo Lazzari, Susanna Bardini, Aldo Torrebruno, Marco D. Santambrogio</i>	
› Overcoming Obstacles: A Roadmap for Effective Collaboration Between Engineering Academics and Third Space Professionals.....	592
<i>Hebatallah Shoukry, Gule Saman, Nidhal Abdulaziz, Juliet Nwafor, Clare Thomson</i>	
Goal-Setting for Success: Integrating Physical and Academic Growth at NECSTLab .....	597
<i>Laura Ginestretti, Andrea Alberti, Marco D. Santambrogio</i>	

Bridging Research and Entrepreneurship: An Innovative Educational and Experiential Approach .....	602
<i>Susanna Bardini, Mirko Coggi, Laura Ginestretti, Guido Walter Di Donato, Marco D. Santambrogio</i>	
Fostering Early Engineering Identity Through K-12 Outreach: Insights from a Three-Week Summer Program .....	607
<i>Betul Bilgin, Dania Nazimuddin, Louie Edano, Nadia Nikolova</i>	
User Experience Design Module: Focusing on Student-Centred Approach .....	614
<i>Baharak Ahmaderaghi, Darryl Stewart</i>	
Enhancing AI Interaction Through Co-Construction: A Multi-Faceted Workshop Framework .....	618
<i>Michael Lenke, Carsten Schulte</i>	
Exploring Strategies to Improve Learning Outcomes in Video Analytics and Machine Learning in Large Classes .....	628
<i>Baharak Ahmaderaghi, Jesus Martinez Del Rincon, Darryl Stewart</i>	
Exploring the Effects of Simulation-Based Instruction for Neural Networks .....	635
<i>Tat-Sam Wong, Yu-Tzu Lin</i>	
“I’m Actually More Interested in AI than in Computer Science” - 12-Year-Olds Describing Their First Encounter with AI .....	640
<i>Michael Lenke, Lukas Lehner, Martina Landman</i>	
Do STEM Interventions Challenge Gender Stereotypes? A Critical Examination in Students' Perceptions .....	650
<i>Elena Elliniadou, Chryssa Sofianopoulou, Mariza Tsakalerou</i>	
Preliminary Results of the Evaluation of INSPIRA, a Training of Trainers and Andragogical Proposal for Industry 5.0 .....	656
<i>Irma Del Carmen Torres Mata, José Noé Miranda-Becerra, María Del Pilar García-Chitiva, Patricia Vázquez-Villegas</i>	
An Adaptive Intelligent Tutoring System Powered by Generative AI .....	665
<i>Habiba Almetnawy, Ahed Orabi, Alreem Rashed Alneyadi, Tasneim Ahmed, Abderrahmane Lakas</i>	
Developing an Integral Assessment Methodology for a Competency-Based Undergraduate Biomechanics Course .....	675
<i>Flor A. Vargas-Oviedo, Marcos D. Moya-Bencomo, A. Israel Botello-Arredondo, Claudia F. Romero-Flores, Agustin E. Carvajal-Rivera</i>	
Enhancing TCP/IP Architecture Learning Through Virtual Reality Technology .....	683
<i>Eva M. Castro Barbero, Pedro De Las Heras Quirós, Jesús M. Gonzalez Barahona, José Centeno González, Gregorio Robles Martínez</i>	
Comparative Analysis of Two Implementations of Global Shared Learning in Biotechnology Engineering: Teacher Preparation and AI Integration for Future Classrooms .....	693
<i>Danay Carrillo-Nieves, Karina G. Coronado-Apodaca</i>	
Assessing New Learning Paths for Upskilling and Reskilling the Shipbuilding Workforce .....	698
<i>María López-Morado, Lucía Santiago Caamaño, Vicente Díaz Casás</i>	
Design of Educational Modules for Industry 5.0 Technologies Teaching .....	708
<i>Franco Rivadeneira, Julio Sinche, Gabriel Arias, Wilder Matias, Diego Arce, Miguel Angeles</i>	

Navigating Ethical Dilemmas in the Implementation of AI-Driven Educational Technologies .....	718
<i>Muhusina Ismail, Nisha Thorakkattu Madathil, Meera Alalawi, Shamma Alalawi, Saed Arabaee</i>	
Design and Evaluation of Novel Architecture for a Classroom Interaction Tool .....	723
<i>Talha Mahboob Alam, Tomas Klungerbo Olsen, George Adrian Stoica, Özlem Özgöbek</i>	
ZoneSight: Generative AI for Assessing Practical Competency in Project-Based and Apprenticeship Learning Environments .....	733
<i>Gus F. Halwani, Miles Baird, David Selles</i>	
Real-Time Student Engagement Monitoring on Edge Devices: Deep Learning Meets Efficiency and Privacy .....	736
<i>Hamza A. Abushahla, Rana Gharaibeh, Lodan Elmugamer, Ali Reza Sajun, Imran A. Zualkernan</i>	
Coaching and Engineering Synergy for Effective Vocational Tools: The COACH_ING Model .....	745
<i>Viviana Callea, Isabel John, Apollonia Matrisciano, Mihai Ursache</i>	
An Analysis and Application of Competency-Based Education Techniques for Collegiate Engineering Lab Courses .....	755
<i>Lucas Buccafusca</i>	
Reshaping ICT Engineering Identities: Ethical Insights from Cross-Professional Analogies .....	761
<i>Davinia Hernández-Leo, Aurelio Ruiz-García</i>	
Towards an AI-Motivated Mathematical Skills Inventory for Future Engineers .....	771
<i>Ilathiraiyan Sivagnanamoorthy, Alexandra Werth, Raahil Shah, Rehan Shah</i>	
Problem-Based Learning by Building an Incremental Web Application .....	774
<i>J. Navarro-Lázaro, G. Ortega, E. M. Garzón, F. Orts, A. M. Puertas</i>	
Designing a Platform to Train Secure Programming Skills with Attack-And-Defend Exercises .....	784
<i>Leo St. Amour, Eli Tilevich</i>	
Integrating Transversal Skills Through Gamification: A Case Study in Mexican Engineering and Design Education .....	794
<i>Andrea Escobar-Bazaldua, Pilar Rodríguez-Dobarganes, Adrián Isrrael Tec Chim</i>	
Weaving Together Beyond Disciplines: A Transdisciplinary Experience in Engineering Education and Community Collaboration .....	801
<i>Diana María López Ochoa, Mónica Ayde Vallejo Velásquez, Valentina Salazar Celis, Lesly Nathaly Quevedo Ayala, David Artemio Ríos Méndez, Samuel Vallejo Aguilar, Camilo Suarez, Johan Morales</i>	
CustomAIzEd: Bridging Interdisciplinary Gaps in AI Education with Customized Content Using LLMs .....	804
<i>Li Xue Pua, Rushil Ramesh, Prabhu Natarajan, Ganesh Neelakanta Iyer</i>	
Charting Uncharted Territory: Defining the Scope of the Metaverse in Education .....	814
<i>Bartol Boras, Antun Drobnjak, Ivica Boticki</i>	
Generative Artificial Intelligence and Encounters with Knowledge in STEM Higher Education Curricula .....	819
<i>Wesley Doorsamy, Kershree Padayachee, Alan S. Cornell</i>	

How Can We Foster a Love for Learning? Case Study on Enhancing Knowledge for Educators and Students at Chulalongkorn University.....	824
<i>Sirin Chakamanont, Proadpran Punyabukkana, Siriporn Khabuan, Preechaya Sittipunt</i>	
Sustainability Through Education: A Competency Development Framework .....	834
<i>Alexander Berndt, Wolfgang Werth, Christian Madritsch, Hannes Oberlercher</i>	
Adaptive Learning Environment Reference Architecture for an Optimised Learning Process .....	839
<i>Felix Böck, André Deuerling, Dieter Landes</i>	
Bridging AI, Robotics, and Software Engineering: An Interdisciplinary Approach for Learning Emerging Technologies .....	849
<i>Lorena B. Martínez Elizalde, Carlos Astengo Noguez, Maria Raquel Landa Cavazos, Luis Ricardo Salgado Garza</i>	
From Cards to Code: Gamified Learning with Card Games for Game Design, Algorithmic Thinking, Theory of Computation, and Project Planning.....	857
<i>Lorena B. Martínez Elizalde, Carlos Astengo Noguez, Valentina Narvaez-Teran, Maria Raquel Landa Cabazos</i>	
Leveraging AI to Foster Critical Thinking in Engineering Education: Exploring the Three Spheres of Critical Thinking .....	866
<i>Patricia P. Jimenez, Andrés Mejía, Jimena Pascual</i>	
Can We Trust AI Chatbots to Teach University Physics? A Performance Comparison of AI Chatbots.....	869
<i>Víctor Robledo-Rella, Andrés Gonzalez-Nucamendi, Luis Neri, Rosa M. G. García-Castelán, Julieta Noguez, Jorge Valverde-Rebaza</i>	
Small Doses of Entrepreneurial Content (SDEC) to Foster Entrepreneurial Competencies in Biotechnology Engineering .....	876
<i>Geraldina Silveyra-León, Lucía A. Rodríguez-Aceves, Luz Yenira Tlacuilo-Parra, Yocanxóchitl Perfecto-Avalos</i>	
Enhancing Student Knowledge Confidence Through Digital Gamification in Engineering .....	881
<i>Armando Elizondo-Noriega, Tecilli Tapia-Tlatelpa, Carolina Alcantar-Nieblas, Luis Carlos Félix-Herrán, Fabiola Salas-Díaz, Luis Alberto Lozano-Taba, María Rubi Forte-Celaya, Armando Guerrero Serrano Linde, David Güemes-Castorena, María S. Ramírez-Montoya, Naveen Tiruvengadam</i>	
Decoding Student Approaches: Navigating Complex Open-Ended Engineering Problems with Large Language Models .....	890
<i>Marie-Luce Bourguet</i>	
Automated Evaluation System for Software Development Assignments.....	897
<i>Bernhard Wallisch</i>	
Students' Attitudes About Robots Based on Their Short Stories .....	906
<i>Ana Sovic Krzic, Petra Mazar, Dalia Kager</i>	
Redesigning Computer Science Programs for Next Generation - Perceptions Versus Experiences .....	911
<i>Bjørn Klefstad, Grethe Sandstrak, Arne Styve, Kiran Raja</i>	
Combining CDIO and Challenge-Based Methodologies to Enhance and Complement Curricula in Industrial Engineering: A Case Study Combining Acoustics and AI.....	921
<i>Cesar Asensio, Ignacio Pavon, Diego F. Uribe, Juan Manuel De Andrés, Guillermo De Arcas</i>	

Towards a Framework for Mapping Authentic Assessment to Competency in University Computing Education in the UK .....	926
<i>Tom Prickett, Ian McChesney, Emma Norling, Alan Hayes, Alexandros Chrysikos, Steve Riddle, James H. Davenport, Alastair Irons, Tom Crick</i>	
Integrating Virtual Reality in Mechanism Education: Enhancing the Educational Experience.....	936
<i>Christopher Edgar Falcon Anaya, Saül Cuen-Rochin, Armando Elizondo-Noriega</i>	
Gender and Socioeconomic Influences on Academic Performance in Pbl Computing Education .....	946
<i>Priscila Falcão Dos Santos, Vitor Augusto Mentem De Barros, Henrique Mohallem Paiva, Flávia Maria Santoro</i>	
Stimulating Critical Thinking in a Web Programming Module with Generative AI Tools.....	951
<i>Usman Naeem, Arne Styve, Outi T. Virkki</i>	
Effectiveness of Intelligent Educational Technologies for Web Developer Retraining: Case Study of Khan Academy Platform and COSAR Program in Benin .....	958
<i>Gerlix Adankon, Pélágie Houngue</i>	
Evaluating the Impact of Assistive AI Tools on Learning Outcomes and Ethical Considerations in Programming Education .....	968
<i>Seong Min Park, Marco Ho, Michael Pin-Chuan Lin, Jeeho Ryoo</i>	
Personalised Learning Approach for Analogue Circuit Design Project.....	978
<i>Faisal Mohd-Yasin</i>	
Creating Sustainable Solutions: An Inclusive Hackathon Leveraging GenAI in a Local Context .....	983
<i>Jonathan W. Browning, Stephen McKeever, Maria Angela Ferrario, Ian O'Neill, Darryl Stewart</i>	
Usability Evaluation of a Multisensory Tool for Literacy of Children and Young People with Down Syndrome .....	990
<i>Laura Quevedo Jurgina, Lui Gill Aquini, Seiji Isotani, Leomar Soares Da Rosa, Tiago Thompsen Primo, Fernando Moreira</i>	
Requirement Analysis and Didactic Evaluation of a Collaborative Remote Laboratory for FPGAs .....	1000
<i>Rashed Al Amin, Veit Wiese, Sven Jacobs, Timo Hardebusch, Steffen Jaschke, Roman Obermaisser</i>	
Do Large Language Models Require Prior Knowledge for Learning? A Preliminary Study .....	1005
<i>Marcus Soll, Louis Kobras</i>	
Designing a Flexible, Practice-Oriented Digital Forensics Cyber Exercise Aligned with the NICE Framework.....	1010
<i>Christoph Dorner, Christoph Lang-Muhr</i>	
Exploring Futuristic Thinking and Soft Skills Development in Education: Insights from Higher Education Teachers and K-12 Students .....	1018
<i>Nuno Pombo, Bruno Silva, Sofia Ouhbi</i>	
Unveiling Capabilities and Constraints: A Qualitative Study of Women Engineering Faculty's Research Development.....	1023
<i>Patricia P. Jimenez, Jimena Pascual</i>	
Evolution of Educational Paradigms: from Knowledge Transfer to Competency-Based Learning in Computer Science.....	1028
<i>Luis H. González-Guerra, Pedro Pérez-Murueta</i>	

GenAI-Empowered Group-Based Authentic Assessment for Network Engineering Courses.....	1033
<i>Yue Chen, Kok Keong Chai, Jonathan Loo, Reza Moosaei, Joel Obstfeld</i>	
Remediation of Mathematics Knowledge in Engineering Students Through an AI-Based Selfstudy Educational Intervention .....	1040
<i>Alfonso Serrano Heredia, María Del Pilar García-Chitiva, Claudia Camacho-Zúñiga, Luis Fernando Morán Mirabal, Patricia Vázquez-Villegas</i>	
Introducing Quantum Computing to Engineer and Computer Science Students Using Active Teaching-Learning Methodologies.....	1048
<i>Lucas Borges, Pamela Bezerra, Erico Teixeira, Everton Barros</i>	
Integrating IoT Technologies for Monitoring and Control Systems: A Project-Based Approach to Developing a Fictitious IoT Company .....	1058
<i>M. Cristina Rodríguez-Sánchez, Pedro R. Fernández, Santiago Murano, Rubén Nieto</i>	
Mapping of Educational Course Descriptions to ESCO Competences Using Large Language Models.....	1063
<i>Artur C. Romão, Fabianne Ribeiro, Lúcia M. Sousa, António J. R. Neves</i>	
The Role of National Professional Engineering Associations Between the Education System and the Labour Market.....	1070
<i>Paulo Silva, Bento Aires, Anabela Silva Conde, Carlos Felgueiras, Alicia García-Holgado</i>	
Fostering Algorithmic Thinking Within a Productive-Failure-Based Workshop Utilizing AI.....	1075
<i>Frauke Ritter, Nadine Schlomske-Bodenstein</i>	
Enhancing Algorithmic Thinking Through Semantic Waves: Integrating Necessity Learning Design in Computer Science Education .....	1085
<i>Frauke Ritter, Bernhard Standl</i>	
Uses of Generative AI in Engineering, Technology, and Computing Classrooms: Findings from the IEEE FIE Conference Proceedings.....	1095
<i>Crista Mohammed, Wayne Sarjusingh, Sean Rocke</i>	
A Beamforming Demonstrator for Interactive, Student-Centered Learning in Radar Technology .....	1102
<i>Jan-Michel Remmel, Marcel Follmann, Andreas R. Diewald, Volker Lücken</i>	
AI-Assisted Multiple-Choice Questions Generation with Multimodal Large Language Models in Engineering Higher Education .....	1112
<i>Chao Shu, Na Yao, Yue Chen, Vindya Wijeratne, Ling Ma, Jonathan Loo, Kok Keong Chai, Atm Alam, Aisha Abuelmaatti</i>	
Developing the Skills of the Future Comprehensively by Applying a Variant of Challenge-Based Learning: Multiple Challenges in a Single Engineering Course: The Multi Challenge-Based Learning Framework .....	1121
<i>Miguel De J. Ramírez-Cadena, Juana I. Méndez-Garduño, Israel U. Cayetano-Jiménez, Jorge Membrillo-Hernández</i>	
Eye-Tracking Research in Kinematics Graphs: The Beginning of the Observation of the Impact of Visual Element Graphs on Students .....	1126
<i>Juan-Carlos Rojas, Pablo Barniol, Santa Tejada, Genaro Zavala, Margarita Vergara</i>	
Design and Development of a Mixed Reality Maintenance Training Guide for Electric Doors for Urban Railways .....	1131
<i>Kyung Sik Kim, Chul Su Kim</i>	

The Transformative Role of Generative AI in Higher Education: Perspectives from Academia and Industry.....	1136
<i>Chao Liu, Kok Keong Chai, Yue Chen</i>	
The Impact of Design Thinking Skills on Undergraduate Engineering Students in the Subject of Person-Machine Interaction.....	1142
<i>Patricia Santos, Khadija El Aadmi, Aitana Gonzalez, Alina Karl</i>	
Enhancing Competition-Based Big Data Analytics Learning Through AI-Driven Distributed Scaffolding .....	1147
<i>Xiaohan Chen, Na Li, Nikesh Bajaj, Pengfei Fan</i>	
To Innovate Again: Reassessing Students' Strategic Decision-Making in a Simulated Environment .....	1152
<i>Saltanat Akhmadi, Mariza Tsakalerou</i>	
How to Automate Feedback on Diagrammatic Reasoning with a Relevant Degree of Freedom?.....	1157
<i>Géraldine Brieven, Lev Malcev, Benoit Donnet</i>	
A Retrospective Comparison and Experiences of Different Situationally Adapted Forms of Teaching Control Engineering.....	1167
<i>René Rütters, Sarah Dolls, Michael Bragard</i>	
Destination STEMM Mentoring Programme: Bridging Equity Gaps in STEMM Education .....	1172
<i>Niloufar Abourashchi, Kevin Coutinho</i>	
Beyond the Response Rate: Exploring the Quality of Student Feedback.....	1180
<i>Junaid A. Siddiqui</i>	
Integrating Generative AI in Cybersecurity Curricula.....	1183
<i>Ban Alomar, Zouheir Trabelsi</i>	
Stimulating Brainstorming Activities with Generative AI in Higher Education.....	1192
<i>Jérémy La Scala, Sonia Sahli, Denis Gillet</i>	
Block-Based Programming in Low-Level Computing: How Blocks Facilitate Learning Assembler .....	1202
<i>Florian Wörster, Maria Knobelsdorf</i>	
Generative AI for Education: A Retrieval-Augmented System for Effective Feedback in Self-Assessment .....	1212
<i>Juan Martinez-Romo, Lourdes Araujo, Laura Plaza, Fernando López-Ostenero</i>	
Exposure to User-Centred Design Activities: Experiences in Higher Education .....	1221
<i>Ioana Visescu, Marta Lárusdóttir, Anna Sigridur Islind</i>	
From Students to Engineers: An Integrated Model for Educating the Whole Engineer .....	1230
<i>Farzaneh Hafezi, Manajit Chakraborty, Muhammad Ikhlaz</i>	
Enhancing Reflective Learning Through Self-Revision Quizzes in TNE: A Four-Year Study.....	1235
<i>Atm S. Alam, Riasat Islam, Yue Chen, Vindya Wijeratne, Chao Shu, Ling Ma, Kok Keong Chai</i>	
Accessibility and Inclusivity in I.S. Design for Students in Computing Education .....	1244
<i>Vasso Stylianou, Andreas Savva</i>	
AI and Challenge-Based Learning: The Case of Biotechnology Engineering Understanding the Role of the Microbiota.....	1249
<i>Mariana E. Elizondo-García, Vianney Lara-Prieto, Rebeca García-García, Ingrid G. Benavides-García, Jorge Membrillo-Hernández</i>	

HyperFPGA: Enhancing Education with Remote Laboratory Access for Heterogeneous Computing on MPSoC-FPGA Technologies .....	1254
<i>Maynor G. Ballina, Romina S. Molina, Maria Liz Crespoa, Sergio Carrato</i>	
Bringing Ai to the Classroom: A Framework for Systemic Curriculum Changes .....	1259
<i>Torben Bjarne Wolff, Alke Martens</i>	
Reducing Bias in Student Peer Evaluation: A Variational Inference Approach.....	1268
<i>Jacopo Lazzari, Marco D. Santambrogio, Maurizio Magarini</i>	
Error Resolution Strategies: What Do Novice Non-Native English Programmers Use?.....	1278
<i>Rafael I. Bonilla, Marisol Wong-Villacres, Michael J. Johnson, Juan Guadalupe, Adair Abrigo, Ashmitha Julius Aravind, Bryan Segovia, Fausto Jacome</i>	
Training Smart Cities Professionals on Digital and Horizontal Skills in the Industry 5.0 Era .....	1281
<i>Vasileios Gkamas, Maria Rigou, Ivaylo Gueorguiev, Violeta Kyurdyan</i>	
Fostering Student-Centered Learning: Exploring Faculty Well-Being and Emotional Exhaustion in Engineering Education .....	1290
<i>Jesus Alfonso Beltran-Sanchez, Angeles Dominguez, Genaro Zavala</i>	
Video Podcasts as a Learning Tool for Science and Communication.....	1298
<i>Claudia Hernandez-Mena, Andrea Toral Rojas</i>	
Humanising Pedagogies in Transdisciplinary Education: Promoting Critical Thinking, Empathy, and Ethical Awareness in Real-World Problem-Solving .....	1302
<i>Mary Nolan, Lizbeth Goodman, Konrad Mulrennan, Mary Carden, David Mulligan, Eva Murphy</i>	
Integrating Generative AI into Design Thinking: Assessing Impact on Creativity and Innovation in STEM Education .....	1312
<i>Guillermo M. Chans, César Merino-Soto, Santiago Santillán Chávez, Jaime A. García Castro, Genaro Zavala, Elvia Sánchez Rodriguez</i>	
Industry Collaboration and Comprehensive Mentorship for Future-Oriented Competency Development .....	1319
<i>Ricardo Swain-Oropeza, Laura Eugenia Romero Robles, Jose Alfredo Galvan-Galvan, Maria De Lourdes Macario-Abularach</i>	
Implementing a Student-Centered Learning Environment: The Dean List Initiative and Its Impact on Mentorship and Skill Development.....	1326
<i>Ricardo Swain Oropeza, Erick Ramirez-Cedillo, Laura Eugenia Romero Robles, Jose Alfredo Galvan-Galvan, Kevin Luna Villarreal</i>	
Active Learning in STEM Education: An Approach Combining Flipped Classroom and Dialogic Teaching .....	1333
<i>Henrique Mohallem Paiva, Victor Takashi Hayashi, Flávia Maria Santoro, Juliana Pereira Lisboa M. Paiva, Mauricio Garcia</i>	
Mentorship and Community in Engineering: A Case Study of Undergraduate Engagement in Research .....	1343
<i>Percy Eric Smith, Emma Balevic, Michael Hannigan, Alexandra Fowler, Spencer Hoehl, Peter Reeves</i>	
Student's Perceptions of Technology-Mediated Open-Text Questions in the Classroom: A Case Study.....	1352
<i>Talha Mahboob Alam, George Adrian Stoica, Özlem Özgöbek</i>	

Individual Students Interest and Argumentative Skills Improvement Using Social Media and AJA Strategy.....	1362
<i>A. Flores-Amado, G. Sayeg-Sanchez, A. Adriana Amozurrutia, Alexa Cervantes-Lopez, C. Hernández-Mena</i>	
AI-Driven Personalized Learning Profiles to Enhance Student Performance in Basic Physics: A Pilot Study .....	1369
<i>David Garcia-Suarez, Bárbara Regina Granados Guzmán, Carlos Andrés Hernández Alamillo, Edgar Paul Martínez Ludert Muñoz De Cote</i>	
The Impact of Chatbots on Students' Reflective Thinking in Introductory Programming Course .....	1374
<i>Agatha Rachmat, Craig Watterson, Karsten Lundqvist</i>	
Qualitative Feedback Comparison Between Professors and AI in STEM Education.....	1384
<i>Luis Virgen Navarro, María Magdalena González Pérez, Paloma Barajas-álvarez, Emiliano Ortiz-Zavala, Ernesto Reyes Villegas, José Miguel Sánchez-Lizárraga</i>	
Mine2Twin: A Synergistic Industry-Academia Collaboration to Improve Engineering Skills for Industry 5.0.....	1390
<i>Nathalie Risso, Matias Saavedra, Jinhong Zhang</i>	
Innovative Learning: Integrating Design Thinking, Experimental Design and Artificial Intelligence for Next-Gen Engineering Education in the Context of Industry 5.0 .....	1395
<i>Ana Mónica Lizette Turcios-Esquivel, Mariana Trujillo Gallego</i>	
Leveraging Emerging Digital Technologies in Climate Change Education: A National-Level Case Study.....	1403
<i>Maria Magdalena González Pérez, Alfredo Figarola Figarola, Ernesto Reyes Villegas</i>	
AI-Supported Learning: Integrating ChatGPT to Enhance Cognitive Skills in STEM Education .....	1411
<i>Elvia Sánchez-Rodriguez, César Merino-Soto, Meiting Huang Chen, Genaro Zavala, Guillermo M. Chans</i>	
Intersectional Predictors of Early Mathematics Identity Among Underrepresented Engineering-Interested Students.....	1416
<i>Douglas D. Havard, Adriana Quirós-Arauz</i>	
From Earth to Space and Back: The Use of Challengebased Learning to Develop Disciplinary and Transversal Skill Through Space-Related Experiences .....	1426
<i>Jorge Membrillo-Hernández, Araceli Martínez-Ortiz</i>	
Understanding of the Nature of Engineering: Examining the Gap Between Engineering Experts and Pre-Service Teachers .....	1431
<i>Tamar Ginzburg, Miri Barak, Sibel Erduran</i>	
Integration of Artificial Intelligence as a Tool to Enhance Critical Thinking Skills and Foster Learning in Bioengineering Education.....	1437
<i>Angelica Lizeth Sanchez-Lopez, Miriam Irene Jimenez-Perez, Yocanxóchitl Perfecto-Avalos, Diego Eloy Navarro-Lopez, Juan Esparza-Sanchez, Edgar Rene Lopez Mena</i>	
Merging Studio-Based Learning with Flipped Classroom Techniques: Ensuring Support and Focus in Engineering Education .....	1442
<i>Nathalie Al Kakoun, Fatima El Ali, Mohammad Harb</i>	
Adaptive Learning in Computational Thinking: The Role of Emotional Feedback in Programming Contests Training.....	1451
<i>Daniel Felipe Gómez Aristizabal, Rafael Herrero-álvarez, Gara Miranda, Coromoto León</i>	

LLM-Assisted Knowledge Graph Completion for Curriculum and Domain Modelling in Personalized Higher Education Recommendations .....	1461
<i>Hasan Abu-Rasheed, Constance Jumbo, Rashed Al Amin, Christian Weber, Veit Wiese, Roman Obermaisser, Madjid Fathi</i>	
Interactive Visual Learning in Machine Learning: A Cognitive Learning Theories-Driven Approach .....	1466
<i>Areej Alatawi, Ebru Burcu, Dimitris Kalogiros, Jesús Requena Carrión</i>	
AI-Assisted Assessment: A Dual Perspective on Effective Usage Plans for Students and Teachers .....	1476
<i>José Manuel Martins Ferreira</i>	
Engaging Students in Scientific Writing: The STRaWBERRY Checklist Framework with LLM-Based Paper Draft Assessment .....	1486
<i>Andreas Theissler, Marco Klaiber, Felix Gerschner, Philip Ritzer, Jie Wang</i>	
Enhancing Employability with Lifelong Learning in Cloud Computing Through Education to Workforce (E2W) Initiatives .....	1496
<i>Gokop Goteng, Atm S. Alam, Michael K. Chai, Stephen Howell, Ethan Lau</i>	
A Framework for Evaluating AI Powered Learning Platforms in K-12 and University CS Education .....	1502
<i>Felix Grelka, Theresa Kruse-Kurbach, Marc Berges</i>	
Generative AI in Undergraduate Classrooms: Lessons from Implementing a Customized GPT Chatbot for Learning Enhancement.....	1507
<i>Junaid Qadir</i>	
Balancing Generative AI and Critical Thinking to Develop Written Communication Skills in Cybersecurity.....	1517
<i>Apostolos Charalambous, Andriani Piki, Joakim Kävrestad, Eliana Stavrou</i>	
Towards Inclusive Educational AI: Auditing Frontier LLMs for Cultural Biases Through a Multiplexity Lens .....	1527
<i>Abdullah Mushtaq, Rafay Naeem, Imran Taj, Ibrahim Ghaznavi, Junaid Qadir</i>	
Harnessing Multi-Agent LLMs for Complex Engineering Problem-Solving: A Framework for Senior Design Projects .....	1537
<i>Abdullah Mushtaq, Rafay Naeem, Ibrahim Ghaznavi, Imran Taj, Imran Hashmi, Junaid Qadir</i>	
Fostering Creative Style “Contamination” and Self-Efficacy in STEAM Students Through Multidisciplinary Co-Design .....	1547
<i>Francesca Fiore, Giulia Paludo, Alberto Montresor</i>	
Diversity in Higher Education - Obligation Or Nice to Have?.....	1552
<i>Yvonne Sedelmaier, Philipp Stang</i>	
Evaluating the Impact of Gamification in ePhos AR: A Comparison of Usability, Engagement, and Motivation .....	1559
<i>Georgina Skraparli, Theodoros Stefanidis, Thrasyvoulos Tsiatsos</i>	
Surveying Teachers' Perspectives: Insights from the Negative Attitudes Toward Robots Scale (NARS) in Croatia.....	1568
<i>Ivana Storjak, Ana Sovic Krzic</i>	
Generative Ai in the Classroom: Balancing Innovation, Fear, and Necessity .....	1578
<i>Asma Ayari, Linda Ouerfelli</i>	

Leveraging Generative AI to Simulate Stakeholder Involvement in the Engineering Design Process: A Case Study of MSc Team-Based Projects.....	1584
<i>Kennedy John Offor</i>	
The MDX Living Pavilion: Making a Collaborative, Sustainable Learning and Wellbeing Space on Campus.....	1587
<i>Homeira Shayesteh, Tong Yang, Kate Fregene, Paul Beaty-Pownall, Shahrokh Zandi, Mehmet Karamanoglu, Zuzana Botkova</i>	
Concepts for Teaching Software Development in the Age of AI-Tools.....	1597
<i>Axel Böttcher, Veronika Thurner, Benedikt Zönnchen</i>	
Application of Generative AI in Experimental Teaching of Communication Principles.....	1607
<i>Zhengguang Xu, Xiaojun Hei</i>	
Bicopshield: A Twin-Rotor Portable Laboratory for Control Engineering Education.....	1612
<i>Ján Boldocký, Anna Mikulášová, Eniko T. Enikov, Martin Gulan</i>	
Enhancing Ethical Reasoning in Engineering Education Through Student-Created Interactive Ethical Scenarios Using Generative AI.....	1620
<i>Stuart Grey</i>	
User Experience with an Automated Assessments Platform in an Introductory Programming Course.....	1625
<i>Reelika Suviste, Merilin Säde, Karro Soosaar</i>	
Exploring the Role of Large Language Models as Artificial Tutors.....	1632
<i>Benedikt Zönnchen, Martin Hobelsberger, Gudrun Socher, Veronika Thurner, Sarah Ottinger</i>	
“Who's Doing the Thinking Here?": A Pedagogy-First Approach to Integrating Large Language Models in Higher Education.....	1642
<i>Jonathan Jackson</i>	
Mastery Learning in CS1 with High Transparency Tests: Challenges for Fairness Among Task Variants.....	1645
<i>Guttorm Sindre</i>	
Solving Mathematical Problems Without Calculating the Use of Computer Algebra Systems in Electrical Engineering Lectures.....	1655
<i>Michael G. Salloker</i>	
Enhancing Computational Thinking and Problemsolving in Programming Education Through Generative AI: A Scoped Review.....	1660
<i>Courage Matobobo, Prince Daughin Ngqabutho Ncube, Nomputumo Linah Ngesimani, Godwin Pedzisai Dzvapatsva, Edmore Chinhamo</i>	
Assessing the Impact of Interdisciplinary Design Challenges on Student Learning, Employability and Graduate Outcomes: A Longitudinal Study in HE.....	1669
<i>Tamer Panagiotis Doss, Goudarz Poursharif, Rebecca Broadbent, Ana Kyoseva</i>	
SAPP: Student Academic Performance Predictor.....	1672
<i>Esha Barlaskar, David Cutting, Angela Allen, Andrew McDowell</i>	
Enhancing Student Experience in Project Selection: A Personalized Recommendation Approach.....	1679
<i>Yixuan Zou, Habiba Akter, Chao Shu, Md Hasanuzzaman Sagor, Ling Ma</i>	

A Tool for Detecting Similarities in Jupyter Notebooks Used as Assessment Reports .....	1684
<i>Nikesh Bajaj, Dimitrios Chiotis, Reza Moosaei, Jordan B. L. Smith, Pengfei Fan, Jesús Requena Carrión</i>	
Implementing Learning Paths into Data Science Courses - A Qualitative Approach .....	1689
<i>Maria Potanin, Maike Holtkemper, Simone Opel, Andrea Linxen, Christian Beecks, Tobias Golz</i>	
Bringing Interactive Instruction to the Software Engineering Classroom: A Multicultural Group Case Study .....	1692
<i>Simona Vasilache</i>	
Computational Thinking and AI Literacy: A Gender-Based Analysis Among Early Learners .....	1697
<i>Andrea E. Cotino-Arbelo, Jezabel Molina-Gil, Carina S. González-González</i>	
To Complete Or Not to Complete: Prediction and Classification of Dropouts in a Cs1 Course .....	1704
<i>Florian Schnedlitz, David Kerschbaumer, Alexander Steinmaurer, David Lowe, Christian Gütl</i>	
Integrating Artificial Intelligence in Higher Vocational Education: A Comparative Study Between Norway and South Africa .....	1711
<i>Elsa Haagensen Karlsen, Mohammed Nazar, Kari Håvåg Voldsund</i>	
School-Level Factors of Computer Science Education at the Upper Secondary School Level that Affect Further Studies in it .....	1716
<i>Kristi Salum, Piret Luik, Marina Lepp</i>	
Blending UX, CoDesign and Learning Experience for Educational Technology Product Design .....	1724
<i>Aekaterini Mavri, Andri Ioannou, Andreas Kitsis</i>	
Integration of Creative Technologies and AI Tools to Improve the Teaching of the History of Medicine .....	1729
<i>João Santos, Bruno Silva, Flávio Almeida, José Martinez</i>	
Gamification in Informal Science Education: Enhancing Children's Motivation and Engagement with VitenChallenge Application .....	1736
<i>Eleni Chatzidaki, Elisabeth Phung Nguyen Doan, Emma Thoresen Kjelstrup, Sofia Papavlasopoulou, Michail Giannakos</i>	
Impact of Phonological Awareness on Vocabulary Acquisition in Dyslexic Children: Towards an Artificial Intelligence Model for Early Diagnosis .....	1746
<i>Sara Biize, Mohammed Qbadou, Khalifa Mansouri</i>	
Development of an Aiding Tool for Classroom Action Research in Pre-Service Teacher Education .....	1754
<i>Wuttiporn Suamuang, Yuwarat Srisupawong, Komkrit Chomsuwan</i>	
Strengthening the Engineering Graduate Toolkit: Conscious Professional Skill Development Through PBL Experiences .....	1761
<i>Yael Furman Shahrabani, Naomi Unkelos-Shpigel</i>	
Deploying Language Model-Based Assessment Support Technology in a Computer Science Degree: How Do the Academics Feel About It? .....	1764
<i>Matthew Yee-King, Andrea Fiorucci</i>	
Assessing Teamwork Dynamics in Software Development Projects .....	1774
<i>Santiago Berrezueta-Guzman, Ivan Parmacli, Mohammad Kasra Habib, Stephan Krusche, Stefan Wagner</i>	

Electrical and Computer Engineering Freshmen and Generative AI: Awareness, Attitudes, and Ethics.....	1779
<i>Crista Mohammed, Sean Roche</i>	
In-Class Evaluation of a Virtual Reality Laboratory for Civil Engineering Education .....	1787
<i>Manuel Breitenfelder, Anna Drechslerová, Andreas Daniel Hartl, Franz-Philipp Kraushofer, Nordbert Randl, Jörg Störzel</i>	
Using Blockchain-Based Immersive Virtual Reality Systems for Computing Education .....	1796
<i>Anum Masood, Azka Umar, Raja Usman Tariq</i>	
A Project-Based Learning Approach for Teaching VLSI Design .....	1801
<i>Antonio Lopez-Martin</i>	
Revolutionizing Structural Damage Inspection in Infrastructure: The Role of Drones and 3D Scanning in Educational Innovation.....	1806
<i>Saúl E. Crespo-Sánchez, Miguel X. Rodriguez-Paz, Luis Horacio Hernandez-Carrasco, Milan Sokol, Luis Ángel Ramírez García</i>	
Promoting Gender Balance in Computing Education: Development, Trends, and Challenges .....	1814
<i>Anum Masood, Azka Umar</i>	
Revolutionizing Academic Evaluation: Bloom's Taxonomy Meets Deep Learning and NLP.....	1824
<i>Jyoti Mudkanna Gavhane, Reena Pagare</i>	
Investigating and Comparing Approaches to Ethics Education in Computer Science and Engineering Disciplines.....	1834
<i>Reolyn Heymann, Estelle Taylor, Japie Greeff</i>	
RISC-V Hardware and Software Ecosystem for Computer Architecture Courses .....	1844
<i>Ondrej Golasowski, Jan Medek, Michal Stepanovsky</i>	
Measuring the Effectiveness of a Serious Game on Knowledge of Information Technology-Related Programs and Gender Stereotypes Among Peruvian Girls .....	1852
<i>Kory Ponce, Nadia Rodriguez-Rodriguez</i>	
Fostering Project Management as a Key Engineering Competence for the Success of Large-Scale Projects.....	1862
<i>Rodrigo Salmón-Folgueras, Saul Cuen-Rochin, Alejandro K. Tomatani-Sánchez, Christopher E. Falcon Anaya, Claudia Camacho-Zuñiga</i>	
Enhancing Employability and Engagement in a Student-Centred Learning Environment: Insights from the MDX Internship Scheme .....	1869
<i>Ramona Trestian, Homeira Shayesteh, Jack Tims, Purav Shah</i>	
Exploring the Factors Influencing Educators' Acceptance of Gamification for Middle School Students .....	1879
<i>Maria Koutroumani, Stefanos Balaskas, Maria Rigou</i>	
A Discord in Teaching Urban Mobility Specialists-Observations on University Curricula of Smart and Sustainable Mobility .....	1888
<i>Mihhail Kirejev, Tarvo Niine, Wolfgang D. Gerstlberger</i>	
What Do the Data Reveal About Women and Men in Technology?.....	1898
<i>Luciana B. Frigo, Joice P. Cardoso, Maria T. S. Santos, José Viterbo, Fabricio De Oliveira Ourique, Isabela Gasparini, Analucia S. Morales</i>	

Work in Progress: Building a Virtual Reality Environment for Training UAV Pilots .....	1908
<i>Aleš Jaklič</i>	
Prompting and Rag Vs. Student Engagement and Comprehension in Educational Technology .....	1911
<i>Soumya Prakash Rana, Maitreyee Dey, Preeti Patel, Jesus Requena, Colin Fu</i>	
Virtual Tools and Student Engagement: Insights from Engineering Education.....	1918
<i>Lilit Hakobyan, Richard Lee, Thais Webber</i>	
Balancing Children's Rights and Educational Objectives in K-12 Classroom Technology .....	1928
<i>Elisa Silvennoinen, Teemu Valtonen, Matti Tedre</i>	
Work-In-Progress: Facilitating Automated Feedback of Online Video Conferencing Through Generative Artificial Intelligence .....	1933
<i>Diego Cheuquepán-Maldonado, Roberto González-Ibáñez</i>	
Enhancing Student Engagement and Experience Through Gamified Flipped Learning Using Kahoot! in Engineering Education .....	1936
<i>Shafique Ahmed, Saqib R Jivani, Sanaa Hafeez, Mohamed H Adjali</i>	
Formative Feedback on Engineering Self-Study: Towards 1 Million Times Per Year Per Cohort .....	1941
<i>Peter B. Johnson, Jon Fenton, Phil Ramsden, Robert Chatley, Maria Ribera-Vicent, Karl Lundengård</i>	
Integrating Evaluative Judgement into Engineering Education Assessment: A Practical Approach .....	1944
<i>Ottar L. Osen, Anders Ulstein, Robin T. Bye</i>	
Innovations in Evaluating Individual Competencies Within Team Dynamics in STEM Education.....	1954
<i>Israel Zamora-Hernández, Miguel X. Rodríguez-Paz, Jose A. Palomares-Moctezuma, Jorge A. González-Mendivil</i>	
Educating for the Future: Enhancing Critical Thinking and Misinformation Resilience Through Inoculation Theory in Higher Education .....	1962
<i>Luis Manuel Rico-Gutierrez, Javier Edgardo Garrido-Guillen, Luis Eduardo Garcia- Amezquita</i>	
Accessible and Reliable AI Coding Tutors: Augmenting Large Language Models with Retrieval-Augmented Generation for Java Programming .....	1966
<i>Guiu Puigcercos I Vilar, Parvez Rashid, Navid Hashemi Tonekaboni</i>	
Redesigning the Construction Internship Course with Personalized Learning Paths .....	1976
<i>Lufan Wang, Jose Faria, Lili Steiner</i>	
Developing Open Educational Resources in Engineering Thermodynamics: from Open Textbook to Programmable Problem Bank.....	1981
<i>Claire Yu Yan, Casey Keulen, Amir M. Dehhoda</i>	
Integrating the United Nations Sustainable Development Goals into Engineering Education: A Practical Framework for Developing Future Leaders in Sustainability .....	1984
<i>Homeira Shayesteh</i>	
Students Development of Projects: A Comparison of Stakeholders Perspectives .....	1994
<i>Pedro Fonseca</i>	
Enhancing Transdisciplinary Tutoring in Analog Electronics and Embedded Systems Using Generative AI, Game-Based Learning (GBL) and Moodle .....	1999
<i>Francisco Javier Zamora Navarro</i>	

Enhancing Student Engagement and Understanding in Chemical Engineering Through Simulation-Based Learning.....	2004
<i>Rodrigo Llaguno-Cárdenas, Leonardo Arturo Llanas Rodríguez, Juan C. Tudon-Martinez</i>	
PyTime IoT: A Bootcamp to Motivate High School Students to Choose STEM Careers .....	2011
<i>Adriana Collaguazo, Monica Villavicencio, Alain Abran, Carmen Vaca-Ruiz</i>	
Role Reversal: Fostering Critical Thinking in Higher Education by Teaching AI to Solve Physics Problems.....	2019
<i>Luis Manuel Rico-Gutierrez</i>	
Innovative Spaces with Advanced Technologies Such as Research Activity Simulators for Engineering Education .....	2022
<i>Alejandro Arceo, Milton O. Candela-Leal, Rodrigo Gutiérrez-Garza, Juan C. Tudon-Martinez, Mauricio A. Ramirez-Moreno, Jorge De J. Lozoya-Santos, Manuel Cebral-Loureda</i>	
Impact of Fundamental Mathematics Workshops on Calculus Learning for First-Year Engineering Students .....	2029
<i>Maria Guadalupe Lomeli Plascencia, Edith Berenice Martínez Flores, Brenda Ivette García-Maya</i>	
Promoting Scientific Thinking in Engineering Students: The Stay, the Challenge and the Educational Platform as a Digital Scenario .....	2032
<i>Edgar Lopez-Caudana, Carlos E. George Reyes, Luis Montesinos</i>	
Overview of Undergraduate Programmes in Robotics and Artificial Intelligence in the United Kingdom.....	2041
<i>Igor Gaponov, Ildar Farkhatdinov</i>	
Entrepreneurial Skills and Intention in Higher Education: A Case Study .....	2047
<i>Marybeth Flores-Vazquez, Debbie Hernandez, Roberto J. Mora-Salinas, Jose A. Palomares-Moctezuma, M. Alejandra Peña-Romero, Mariana Olivares Avalos</i>	
Interdisciplinary Innovation Framework - A Unique Approach to the Development of Students' Entrepreneurship with a Focus on Real-Life Problems .....	2057
<i>Lenka Kosková Trisková, Jana Vitvarová, Jana Vimanová</i>	
The Support of Maker Activities in the Attraction of Students to STEAM.....	2064
<i>Wilma Dora Huacasi Mamani, Aruquia Peixoto, Bianca Maria Rêgo Martins, Vania V. Estrela, Luiz Antonio De Saboya</i>	
Teaching Stem Subjects Through Project-Based Learning in a Global Classroom.....	2068
<i>Md Zahidul Islam Pranjol, Habiba Akter</i>	
Designing Innovative Learning Scenarios in Vocational Education for Additive Manufacturing: The Amte@Ch Project .....	2071
<i>Francesca Zampino, Elisabetta Lucia De Marco, Antonella Longo</i>	
The Responsible Development of Automated Student Feedback with Generative AI .....	2077
<i>Euan D Lindsay, Mike Zhang, Aditya Johri, Johannes Bjerva</i>	
VEMETER: A Tool for Evaluating Participation Levels in Virtual Class Sessions .....	2087
<i>Busra Ecem Sakar, Bilal Hassan, Muhammad Farooq Wasiq, Preeti Patel, Yusra Siddiqi, Maitreyee Dey, Hafiz Husnain Raza Sherazi</i>	

WIP: MEXLEfirst - A Vision for an Inclusive and Impactful Education for the Introduction to Electrical Engineering .....	2093
<i>Tim Fischer, Gerhard Gruhler</i>	
Catalyzing Curriculum Transformation to Advance Industry 5.0 Engineering Education .....	2103
<i>Angela James, Cecile Gerwel Proches, Macdonald Kanyangale, Siegfried Rouvrais, Roger Waldeck, Haraldur Audunsson, Vladimiras Dolgopolovas, Nathalie Chelin</i>	
AI-Driven myChatCT: Enhancing Computational Thinking and Coding Skills in High School Education.....	2111
<i>Kuan-Yeh Lin, Po-Hsun Cheng, Li-Wei Chen</i>	
An Exploratory Study of Large Language Model-Based Writing Support for Postgraduate Engineering Students at a South African University .....	2117
<i>Brandt Klopper, Liezl Van Dyk, Liandi Van Den Berg</i>	
ChatGPT as a Programming Tutor: Student Perceptions, Effectiveness, and Challenges .....	2126
<i>Vishwa Bhatt, Zhixin Yu, Yunfei Hou, Jennifer Jin</i>	
Advantages of the TEC21 Model for the Integration of New Professors into the Faculty .....	2136
<i>Sergio Felipe Zaldivar Reyes, Oscar Manuel Ramirez Pelaez</i>	
Fostering Innovation Through Tax Reforms and Risk Capital Access: An Analysis of Norway's Regional Entrepreneurial Ecosystem in Vestfold and Telemark .....	2141
<i>Glenn Agung Hole</i>	
An Engineer-Oriented Teaching Practice of Industrial Process Control Systems .....	2150
<i>Shaowen Lu, Liangyong Wang, Tao Yang, Yongjian Wu</i>	
Effective Evaluation and Unintended Consequences of Stem Interventions: A Case Study from North East England.....	2159
<i>Ito C. Emembolu, Carol Davenport, Annie Padwick, Holly K. East, Joe Shimwell, Rebecca Strachan</i>	
Empowering Women in Engineering: Advancing Gender Equity, Innovation, Leadership, Ethical Practices, and Cultural Inclusivity in STEM-Edu X.0.....	2166
<i>Hamid Mattiello, Diana Mattiello, Volker Wittberg</i>	
Driving Sex-Gender Equity and Ethical Integration in Edu X.0: Harnessing GenAI for Human-Centric Innovation, Responsibility, and Industry X.0 (When X.0 = 5.0) .....	2171
<i>Hamid Mattiello, Diana Mattiello, Volker Wittberg</i>	
Comprehensive Education Via the X.0 Wave: Cultivating Future Sustainable Leaders in AI, Ethics, Healthcare, Engineering, and Business Cutting-Edge Competencies.....	2181
<i>Hamid Mattiello</i>	
The Musical Mastermind: A Case Study on Fostering Music Theory and Computational Thinking .....	2191
<i>Ioannis Sarlis, Dimitrios Kotsifakos, Christos Douligeris</i>	
Transforming Digital Electronics Education: Integrating Sustainability Through Eco-Design, Modularity, and Circular Practices .....	2197
<i>Carlos Cruz, Ignacio Bravo, Ernesto Martín, Etienne Lemaire, Jean-Paul Chemla, Cristian Zambelli, Sebastiano Fabio Schifano, Hélio Mendonça, José Carlos Alves</i>	
The Summer Academy “SHE Creates: STEM Edition” in June 2024 in Greece: A Case Study on the Empowerment Through Education of Women's Identity in the World of Sustainable Energy .....	2206
<i>Dimitrios Kiriakos, Kontilenia Maria Kotsifakou, Dimitrios Kotsifakos, Yannis Psaromiligkos</i>	

Development and Evaluation of Learning Materials for Modeling Informatics Using a Miniature Washing Machine .....	2214
<i>Shiki Hanaoka, Takashi Nagai, Nobuyuki Tachi, Mizue Kayama</i>	
Comparing Emotion Detection Methods in Online Classrooms: YOLO Models, Multimodal LLM, and Human Baseline.....	2222
<i>Medha Mohan Ambali Parambil, Salah Bouktif, Munkhjargal Gochoo, Fady Alnajjar</i>	
Trust in and Adoption of Generative AI in University Education: Opportunities, Challenges, and Implications .....	2229
<i>Yue Zhang, Pascal Reusch</i>	
Dignified Engineering Education: An Introduction.....	2239
<i>Fatima-Zahra Abou Eddahab-Burke, Özge Okur</i>	
The Characteristic Curve Remote Lab: Evaluating the Light Bulb Exercise on Temperature-Dependent Resistance.....	2246
<i>Ingrid Krumphals, Alexander Glössl, Christian Kreiter, Thomas Klinger</i>	
Scalable Remote Laboratory for Electronics .....	2251
<i>Inês Rodrigues, Gustavo Alves, André Fidalgo</i>	
Scaffold Or Crutch? Examining College Students' Use and Views of Generative AI Tools for STEM Education.....	2257
<i>Karen D. Wang, Zhangyang Wu, L'Nard Tufts, Carl Wieman, Shima Salehi, Nick Haber</i>	
What's in a Name? How Cyber Security Masters Degrees Compare .....	2267
<i>Eliana Stavrou, Steven Furnell</i>	
Exploring Intersectionality and Engineering Identity: Understanding Women's Belonging and Retention in Engineering .....	2277
<i>Salma M. S. Al Arefi</i>	
Impostor Phenomenon and Identity Development in Female Doctoral Students in Elite Engineering Programs.....	2282
<i>Maria Ribera Vicent</i>	
Postgraduate Cybersecurity Education for Non-Specialist Professionals.....	2287
<i>James H. Davenport, Tim French</i>	
EngageSense: A Hybrid Approach for Real Time Engagement Detection for Virtual Classrooms .....	2296
<i>Muhammad Irfan, Preeti Patel, Bilal Hassan</i>	
A Comparative Model of Teaching Programming Languages Utilizing Cloud Compilers in Remote Labs .....	2305
<i>Dimitrios Magetos, Sarandis Mitropoulos, Christos Douligeris, Dimitrios Kotsifakos</i>	
Remote-Controlled Laboratory for Thermal Radiation Investigations with Technical and Didactic Innovations .....	2315
<i>Hannes Oberlercher, Christian Kreiter, Ingrid Krumphals, Alexander Gloessl, Alexander Berndt, Ernst Straußnigg, Cristina Villegas Seriano, Thomas Klinger</i>	
Tailored Extended Reality Environments for Education and Training in Cybersecurity: Engagement Beyond Awareness.....	2321
<i>Elizabeth R. Noble, Torvald F. Ask, Benjamin J. Knox</i>	

Exploring the Use of Genai Code Assistants for Engineering Students in Transnational Education Programmes: A Pilot Study .....	2330
<i>Fatma Benkhelifa, Farha Lakhani, Takoua Jendoubi, Nickos Paltalidis, Vindya Wijeratne</i>	
Ethical Generative Artificial Intelligence in Design Education: A Multi-Stakeholder Framework.....	2337
<i>Jiaqi Zhang, Anton Van Beek</i>	
Igniting Curiosity: Engaging Students in Electricity and Magnetism Through Visually Instructive STEM Activities .....	2345
<i>Dulsha Kularatna-Abeywardana, Rajith Abeywardana</i>	
Constructing a Competency Model for Engineering Educators in the New Era: Integrating Foundational Theories and AI-Driven Pedagogical Innovations .....	2351
<i>Lihui Xu</i>	
Generative AI as a Catalyst for Transforming Transnational Engineering Education: Opportunities, Challenges, and Future Directions.....	2361
<i>Sami Ahmed Haider, Khwaja Mutahir Ahmad, Jehan Akbar, Mukesh Soni, Ismail Keshta, Azzah Alghamdi, Hafiza Mahrukh Shahzadi</i>	
Enhancing the Professional Development of Engineering Students Through an AI-Based Collaborative Feedback System .....	2369
<i>Alvaro Becerra, Ruth Cobos</i>	
Ethical AI in Education: A Proposed Model for Responsible Integration .....	2378
<i>Miguel Morales Chan, Milvia Rosales, Rocael Hernandez-Rizzardini, Hector R. Amado-Salvatierra</i>	
Utilizing Generative AI to Develop Programming Skill Through Self-Directed and Interactive Learning .....	2385
<i>Nuttapon Puttajanyawong, Wuttiporn Suamuang, Komkrit Chomsuwan</i>	
Empowering Women in Engineering: The American University of Sharjah Experience .....	2394
<i>Vian Ahmed, Assim Sagahyroon, Fadi Aloul</i>	
Artificial Intelligence as a Tool in Project Management Education .....	2399
<i>Beatriz Amante García, Cristina Amante García</i>	
Collaboration, Co-Creation, and Project-Based Learning to Enhance Digital Governance in Greece.....	2409
<i>Anastasia Papastilianou, Panagiotis Argyris, Makrina Mavromihali, Maria Sigoulaki</i>	
Towards the Design of Cyber Range Training Programs for Enhanced Preparedness: Investigating the Training Needs in Critical Infrastructures.....	2418
<i>Evangelos Floros, Eliana Stavrou, Michail Smyrlis, Nikolaos Nikoloudakis, George Potamos, Athanasios Apostolidis, Panagiotis Bempis, Athanasios Grigoriadis, Konstantinos Magkos, Dimitris Merkouris, Georgios Spanoudakis, Stavros Stavrou, Stelios Trikos, Stelios E. Papadakis</i>	
Integration of Ai Tools into an Ai-Driven Software System to Make Learning Programming Easier.....	2428
<i>Dražen Draškovic</i>	
Peer Mentoring Women Students at a Pre-University Engineering Program .....	2434
<i>Sophia B. Economides, Tegu Dewangga, Jiaxin Chen</i>	
Evaluating Well-Being to Enhance Leadership: An Exploratory Study in Information Technology Engineering Students.....	2438
<i>Teresa Lucio Nieto, Dora Luz González Bañales</i>	

Preparing Engineering Leaders for the Intersection of Technology, Policy, and Society .....	2446
<i>Christopher A. Carr, Christi Cartwright-Wilcox</i>	
Portable, Inclusive, and Affordable Electronics Laboratories: Promoting Diversity and Overcoming Barriers in Engineering Education .....	2453
<i>Bee Yen Toh, Neil Buchanan</i>	
Rapidly Deployable Remote Analogue Electronics Lab with Antiplagiarism and AI Immunity Features .....	2459
<i>Bee Yen Toh, Neil Buchanan</i>	
Teaching Scalability, Fault Tolerance, and Performance in the Cloud: A Practical Laboratory Exercise .....	2466
<i>Marcel León-Lafebré, Gilberto F. Castro Aguilar, Cristina L. Abad</i>	
Interdisciplinary Capstone Engineering Projects for Medical Technologies Design: Cross Discipline Design and Communication Challenges.....	2471
<i>Rosaire Mongrain, Amar Sabih, Mark Driscoll</i>	
Automated Sorting System: An Industry 5.0 Online Lab Education Demonstrator Using Plcnext, IIoT and AI Technology.....	2476
<i>Maximilian Sternad, Andrii Vitrenko, Christian Madritsch</i>	
An Iterative Approach to Strengthening Cybersecurity Awareness in Higher Education Institutions - A Follow-Up Study.....	2481
<i>Bogdan Orza, Aurelia Ciupe</i>	
Development of Framework for Embedding Ethical AI in Engineering Curriculums .....	2485
<i>King Harold A. Recto, Romano Q. Neyra, Antipas T. Teologo</i>	
How Can Intelligent Educational Technologies Address the Challenges of Professional Retraining in Africa: from Current State to Future Perspectives? .....	2491
<i>Gerlix Adankon, Pélagie Houngue</i>	
A CyBOK - Compliant Cybersecurity Syllabus for Inclusion in the ICT Curricula of the Greek Vocational Schools .....	2499
<i>Evangelia Kolega, Maria Eftychia Angelaki, Christos Douligeris</i>	
Cybersecurity Certification for Professional Training: An Overview .....	2506
<i>Dimitrios Kallergis, Theodoros Karvounidis, Kitty Kioskli, Christos Douligeris</i>	
Exploring Students' Familiarity, Usage Patterns, and Perceptions of Generative AI Tools in Education.....	2514
<i>Epaminondas Epaminonda, Despo Ktoridou, Maria Michailidis, Leonidas Efthymiou</i>	
Exploring Experiences and Perceptions of Artificial Intelligence and Its Business Applications by University Students .....	2521
<i>Maria Michailidis, Despo Ktoridou, Charalambos Christou, Antroulla Papakyriakou, Epaminondas Epaminonda, Leonidas Efthymiou</i>	
Introducing Teachers to Engineering Practices with ScratchJr: Programming Patterns and Documentation Guidelines .....	2527
<i>J. Ángel Velázquez-Iturbide</i>	
I-LEAD: A Digital-Intelligence-Powered Ecosystem for Innovation and Entrepreneurship Education.....	2537
<i>Shuchang Liu, Minghui Pan, Yehan Yang</i>	

Ethical Considerations and Responsible Use of AI in Education: A Students' Perspective .....	2546
<i>Leonidas Efthymiou, Epaminondas Epaminonda, Despo Ktoridou, Maria Michailidis, Antroulla Papakyriakou, Charalambos Christou</i>	
How Challenges Become Opportunities: Micro-Credentials and Artificial Intelligence.....	2552
<i>Carlos Delgado Kloos, Carlos Alario-Hoyos, Rebiha Kemcha, Pedro Manuel Moreno-Marcos, Iria Estevez-Ayres, Patricia Callejo-Pinardo, Pedro J. Munoz-Merino, Maria-Blanca Ibanez, Mario Munoz-Organero</i>	
Short Programming Courses: A Pathway to Increase Women's Participation in Technology in Colombia .....	2562
<i>Mónica C. Galán Vargas, Angeles Dominguez, Santa Tejada</i>	
Fine-Tuned Large Language Models for Enhanced Automated Academic Advising.....	2567
<i>Heba Ismail</i>	
Work in Progress: Promoting People Skills and STEM in Students Via Interactive Activities and AI .....	2572
<i>Adriana López-Vargas, Libis Valdez-Cervantes, Cristian Alejandro Zafra-Rodríguez, Luis Alberto Cruz Salazar, Juan Sebastián Sánchez-Gómez, Maria Mercedes Larrondo Petrie</i>	
Women in Engineering: Intersectionality Acting Through the Affirmative Actions.....	2575
<i>Aruquia Peixoto, Cassia Isac Gonçalves Da Silva</i>	
Academic and Personal Mentoring: Fostering STEM Vocations and Their Retention.....	2578
<i>Maria Ileana Ruiz-Cantisani, Libis Valdez-Cervantes, Denisse I. Lopez Ruiz</i>	

**Author Index**