

36th AAAI Conference on Artificial Intelligence (AAAI-22)

Volume 11: IAAI-22, EAAI-22, AAAI-22 Special Programs and Special Track, Student Papers and Demonstrations

- AAAI Special Track on AI for Social Impact
- Senior Member Presentation: Blue Sky Papers
- Senior Member Presentation: Summary Papers
- IAAI Technical Track on Highly Innovative Applications of AI
- IAAI Technical Track on Emerging Applications of AI
- IAAI Technical Track on Innovative Tools for Enabling AI Application
- IAAI Technical Track on AI Integration
- EAAI Symposium: Full Papers
- EAAI Symposium: Lightning Talk
- EAAI Symposium: Model AI Assignment Abstracts
- The Twenty - Seventh AAAI / SIGAI Doctoral Consortium
- AAAI Student Abstract and Poster Program
- AAAI Undergraduate Consortium
- AAAI Demonstration Track

Online

22 February – 1 March 2022

Part 1 of 2

ISBN: 978-1-7138-5584-2

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2022) by Association for the Advancement of Artificial Intelligence
All rights reserved.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact Association for the Advancement of Artificial Intelligence
at the address below.

Association for the Advancement of Artificial Intelligence
2275 East Bayshore Road
Suite 160
Palo Alto, California 94303
USA

Phone: 1-650-328-3123
Fax: 1-650-321-4457

<https://aaai.org/Press/press.php>

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
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

PART 1

AAAI SPECIAL TRACK ON AI FOR SOCIAL IMPACT

Conditional Synthetic Data Generation for Robust Machine Learning Applications with Limited Pandemic Data.....	11792
<i>Hari Prasanna Das, Ryan Tran, Japjot Singh, Xiangyu Yue, Geoffrey Tison, Alberto Sangiovanni-Vincentelli, Costas J. Spanos</i>	
Socially Fair Mitigation of Misinformation on Social Networks Via Constraint Stochastic Optimization.....	11801
<i>Ahmed Abouzeid, Ole-Christoffer Granmo, Christian Webersik, Morten Goodwin</i>	
Personalized Public Policy Analysis in Social Sciences Using Causal-Graphical Normalizing Flows.....	11810
<i>Sourabh Balgi, Jose M. Peña, Adel Daoud</i>	
Interpretable Low-Resource Legal Decision Making.....	11819
<i>Rohan Bhambhoria, Hui Liu, Samuel Dahan, Xiaodan Zhu</i>	
Noninvasive Lung Cancer Early Detection Via Deep Methylation Representation Learning.....	11828
<i>Xiangrui Cai, Jinsheng Tao, Shichao Wang, Zhiyu Wang, Jiaxian Wang, Mei Li, Hong Wang, Xixiang Tu, Hao Yang, Jian-Bing Fan, Hua Ji</i>	
IGrow: A Smart Agriculture Solution to Autonomous Greenhouse Control.....	11837
<i>Xiaoyan Cao, Yao Yao, Lanqing Li, Wanpeng Zhang, Zhicheng An, Zhong Zhang, Li Xiao, Shihui Guo, Xiaoyu Cao, Meihong Wu, Dijun Luo</i>	
CODE: Contrastive Pre-Training with Adversarial Fine-Tuning for Zero-Shot Expert Linking	11846
<i>Bo Chen, Jing Zhang, Xiaokang Zhang, Xiaobin Tang, Lingfan Cai, Hong Chen, Cuiping Li, Peng Zhang, Jie Tang</i>	
Interpreting Gender Bias in Neural Machine Translation: Multilingual Architecture Matters.....	11855
<i>Marta R. Costa-Jussà, Carlos Escolano, Christine Basta, Javier Ferrando, Roser Batlle, Ksenia Kharitonova</i>	
Word Embeddings Via Causal Inference: Gender Bias Reducing and Semantic Information Preserving.....	11864
<i>Lei Ding, Dengdeng Yu, Jinhao Xie, Wenxing Guo, Shenggang Hu, Meichen Liu, Linglong Kong, Hongsheng Dai, Yanchun Bao, Bei Jiang</i>	
A GNN-RNN Approach for Harnessing Geospatial and Temporal Information: Application to Crop Yield Prediction.....	11873
<i>Joshua Fan, Junwen Bai, Zhiyun Li, Ariel Ortiz-Bobea, Carla P. Gomes</i>	
Has CEO Gender Bias Really Been Fixed? Adversarial Attacking and Improving Gender Fairness in Image Search	11882
<i>Yunhe Feng, Chirag Shah</i>	
Preserving Privacy in Federated Learning with Ensemble Cross-Domain Knowledge Distillation.....	11891
<i>Xuan Gong, Abhishek Sharma, Srikrishna Karanam, Ziyang Wu, Terrence Chen, David Doermann, Arun Innanje</i>	

FairFoody: Bringing in Fairness in Food Delivery.....	11900
<i>Anjali Gupta, Rahul Yadav, Ashish Nair, Abhijnan Chakraborty, Sayan Ranu, Amitabha Bagchi</i>	
Bayesian Optimisation for Active Monitoring of Air Pollution	11908
<i>Sigrid Passano Hellan, Christopher G. Lucas, Nigel H. Goddard</i>	
ChildrEN SafEty and Rescue (CENSER) System for Trafficked Children from Brothels in India	11917
<i>Raghu Vamshi Hemadri, Amarjot Singh, Ajeet Singh</i>	
Gradual (In)Compatibility of Fairness Criteria	11926
<i>Corinna Hertweck, Tim Rüz</i>	
Adaptive Energy Management for Self-Sustainable Wearables in Mobile Health.....	11935
<i>Dina Hussein, Ganapati Bhat, Janardhan Rao Doppa</i>	
Evaluating Explainable AI on a Multi-Modal Medical Imaging Task: Can Existing Algorithms Fulfill Clinical Requirements?.....	11945
<i>Weina Jin, Xiaoxiao Li, Ghassan Hamarneh</i>	
Unmasking the Mask – Evaluating Social Biases in Masked Language Models	11954
<i>Masahiro Kaneko, Danushka Bollegala</i>	
CrossWalk: Fairness-Enhanced Node Representation Learning	11963
<i>Ahmad Khajehnejad, Moein Khajehnejad, Mahmoudreza Babaei, Krishna P. Gummadi, Adrian Weller, Baharan Mirzasoleiman</i>	
COVID-EENet: Predicting Fine-Grained Impact of COVID-19 on Local Economies	11971
<i>Doyoung Kim, Hyangsuk Min, Youngeun Nam, Hwanjun Song, Susik Yoon, Minseok Kim, Jae-Gil Lee</i>	
A Search Engine for Discovery of Scientific Challenges and Directions.....	11982
<i>Dan Lahav, Jon Saad Falcon, Bailey Kuehl, Sophie Johnson, Sravanthi Parasa, Noam Shomron, Duen Horng Chau, Diyi Yang, Eric Horvitz, Daniel S. Weld, Tom Hope</i>	
Transcribing Natural Languages for the Deaf Via Neural Editing Programs	11991
<i>Dongxu Li, Chenchen Xu, Liu Liu, Yiran Zhong, Rong Wang, Lars Petersson, Hongdong Li</i>	
Optimal Local Explainer Aggregation for Interpretable Prediction	12000
<i>Qiaomei Li, Rachel Cummings, Yonatan Mintz</i>	
Fair Conformal Predictors for Applications in Medical Imaging	12008
<i>Charles Lu, Andréanne Lemay, Ken Chang, Katharina Höbel, Jayashree Kalpathy-Cramer</i>	
Field Study in Deploying Restless Multi-Armed Bandits: Assisting Non-Profits in Improving Maternal and Child Health	12017
<i>Aditya Mate, Lovish Madaan, Aparna Taneja, Neha Madhiwalla, Shresth Verma, Gargi Singh, Aparna Hegde, Pradeep Varakantham, Milind Tambe</i>	
Gender and Racial Stereotype Detection in Legal Opinion Word Embeddings	12026
<i>Sean Matthews, John Hudzina, Dawn Sepehr</i>	
IS-Count: Large-Scale Object Counting from Satellite Images with Covariate-Based Importance Sampling.....	12034
<i>Chenlin Meng, Enci Liu, Willie Neiswanger, Jiaming Song, Marshall Burke, David Lobell, Stefano Ermon</i>	

DevianceNet: Learning to Predict Deviance from a Large-Scale Geo-Tagged Dataset.....	12043
<i>Jin-Hwi Park, Young-Jae Park, Junoh Lee, Hae-Gon Jeon</i>	
Learning Economic Indicators by Aggregating Multi-Level Geospatial Information.....	12053
<i>Sungwon Park, Sungwon Han, Donghyun Ahn, Jaeyeon Kim, Jeasurk Yang, Susang Lee, Seunghoon Hong, Jihee Kim, Sangyoon Park, Hyunjoo Yang, Meeyoung Cha</i>	
Knowledge Sharing Via Domain Adaptation in Customs Fraud Detection	12062
<i>Sungwon Park, Sundong Kim, Meeyoung Cha</i>	
Learning the Physics of Particle Transport Via Transformers.....	12071
<i>Oscar Pastor-Serrano, Zoltán Perkó</i>	
Accurate and Scalable Gaussian Processes for Fine-Grained Air Quality Inference	12080
<i>Zeel B Patel, Palak Purohit, Harsh M Patel, Shivam Sahni, Nipun Batra</i>	
Investigations of Performance and Bias in Human-AI Teamwork in Hiring	12089
<i>Andi Peng, Besmira Nushi, Emre Kiciman, Kori Inkpen, Ece Kamar</i>	
LIMREF: Local Interpretable Model Agnostic Rule-Based Explanations for Forecasting, with an Application to Electricity Smart Meter Data	12098
<i>Dilini Rajapaksha, Christoph Bergmeir</i>	
‘Beach’ to ‘Bitch’: Inadvertent Unsafe Transcription of Kids’ Content on YouTube.....	12108
<i>Krithika Ramesh, Ashiqur R. Khudabukhsh, Sumeet Kumar</i>	
ReforesTree: A Dataset for Estimating Tropical Forest Carbon Stock with Deep Learning and Aerial Imagery.....	12119
<i>Gyri Reiersen, David Dao, Björn Lütjens, Konstantin Klemmer, Kenza Amara, Attila Steinegger, Ce Zhang, Xiaoxiang Zhu</i>	
Deep Movement Primitives: Toward Breast Cancer Examination Robot	12126
<i>Oluwatoyin Sanni, Giorgio Bonvicini, Muhammad Arshad Khan, Pablo C. López-Custodio, Kiyanoosh Nazari, Amir M. Ghalamzan E.</i>	
Multi-Agent Reinforcement Learning Controller to Maximize Energy Efficiency for Multi-Generator Industrial Wave Energy Converter	12135
<i>Soumyendu Sarkar, Vineet Gundecha, Alexander Shmakov, Sahand Ghorbanpour, Ashwin Ramesh Babu, Paolo Faraboschi, Mathieu Cocho, Alexandre Pichard, Jonathan Fievez</i>	
Reducing Energy Consumption of Pressure Sensor Calibration Using Polynomial HyperNetworks with Fourier Features.....	12145
<i>Muhammad Sarmad, Mishal Fatima, Jawad Tayyub</i>	
Bandit Data-Driven Optimization for Crowdsourcing Food Rescue Platforms	12154
<i>Zheyuan Ryan Shi, Zhiwei Steven Wu, Rayid Ghani, Fei Fang</i>	
Sentiment and Emotion-Aware Multi-Modal Complaint Identification.....	12163
<i>Apoorva Singh, Soumyodeep Dey, Anamitra Singha, Sriparna Saha</i>	
Sentence Simplification Capabilities of Transfer-Based Models	12172
<i>Sanja Štajner, Kim Cheng Sheang, Horacio Saggion</i>	
TransBoost: A Boosting-Tree Kernel Transfer Learning Algorithm for Improving Financial Inclusion	12181
<i>Yiheng Sun, Tian Lu, Cong Wang, Yuan Li, Huaiyu Fu, Jingran Dong, Yunjie Xu</i>	

CausalGNN: Causal-Based Graph Neural Networks for Spatio-Temporal Epidemic Forecasting	12191
<i>Lijing Wang, Aniruddha Adiga, Jiangzhuo Chen, Adam Sadilek, Srinivasan Venkatramanan, Madhav Marathe</i>	
PrEF: Probabilistic Electricity Forecasting Via Copula-Augmented State Space Model.....	12200
<i>Zhiyuan Wang, Xovee Xu, Goce Trajcevski, Kunpeng Zhang, Ting Zhong, Fan Zhou</i>	
Fairness by “Where”: A Statistically-Robust and Model-Agnostic Bi-Level Learning Framework.....	12208
<i>Yiqun Xie, Erhu He, Xiaowei Jia, Weiye Chen, Sergii Skakun, Han Bao, Zhe Jiang, Rahul Ghosh, Praveen Ravirathinam</i>	
DRAG: Dynamic Region-Aware GCN for Privacy-Leaking Image Detection.....	12217
<i>Guang Yang, Juan Cao, Qiang Sheng, Peng Qi, Xirong Li, Jintao Li</i>	
D-Vlog: Multimodal Vlog Dataset for Depression Detection	12226
<i>Jeewoo Yoon, Chaewon Kang, Seungbae Kim, Jinyoung Han</i>	
Longitudinal Fairness with Censorship	12235
<i>Wenbin Zhang, Jeremy C. Weiss</i>	
 <u>SENIOR MEMBER PRESENTATION: BLUE SKY PAPERS</u>	
Toward a New Science of Common Sense.....	12245
<i>Ronald J. Brachman, Hector J. Levesque</i>	
Local Justice and the Algorithmic Allocation of Scarce Societal Resources	12250
<i>Sanmay Das</i>	
Training on the Test Set: Mapping the System-Problem Space in AI.....	12256
<i>José Hernández-Orallo, Wout Schellaert, Fernando Martínez-Plumed</i>	
Symbols as a Lingua Franca for Bridging Human-AI Chasm for Explainable and Advisable AI Systems.....	12262
<i>Subbarao Kambhampati, Sarath Sreedharan, Mudit Verma, Yantian Zha, Lin Guan</i>	
The Computational Gauntlet of Human-Like Learning.....	12268
<i>Pat Langley</i>	
BabelNet Meaning Representation: A Fully Semantic Formalism to Overcome Language Barriers.....	12274
<i>Roberto Navigli, Rexhina Blloshmi, Abelardo Carlos Martínez Lorenzo</i>	
Expert-Informed, User-Centric Explanations for Machine Learning	12280
<i>Michael Pazzani, Severine Soltani, Robert Kaufman, Samson Qian, Albert Hsiao</i>	
Subjective Attributes in Conversational Recommendation Systems: Challenges and Opportunities.....	12287
<i>Filip Radlinski, Craig Boutilier, Deepak Ramachandran, Ivan Vendrov</i>	
Market Design for Drone Traffic Management.....	12294
<i>Sven Seuken, Paul Friedrich, Ludwig Dierks</i>	
Consent as a Foundation for Responsible Autonomy.....	12301
<i>Munindar P. Singh</i>	

SENIOR MEMBER PRESENTATION: SUMMARY PAPERS

Matching Market Design with Constraints.....	12308
<i>Haris Aziz, Péter Biró, Makoto Yokoo</i>	
Commonsense Knowledge Reasoning and Generation with Pre-Trained Language Models: A Survey.....	12317
<i>Prajjwal Bhargava, Vincent Ng</i>	
Target Languages (vs. Inductive Biases) for Learning to Act and Plan	12326
<i>Hector Geffner</i>	
Model-Based Diagnosis of Multi-Agent Systems: A Survey	12334
<i>Meir Kalech, Avraham Natan</i>	
Delivering Trustworthy AI Through Formal XAI.....	12342
<i>Joao Marques-Silva, Alexey Ignatiev</i>	
Anatomizing Bias in Facial Analysis	12351
<i>Richa Singh, Puspita Majumdar, Surbhi Mittal, Mayank Vatsa</i>	

IAAI TECHNICAL TRACK ON HIGHLY INNOVATIVE APPLICATIONS OF AI

Intelligent Online Selling Point Extraction for E-Commerce Recommendation.....	12360
<i>Xiaojie Guo, Shugen Wang, Hanqing Zhao, Shiliang Diao, Jiajia Chen, Zhuoye Ding, Zhen He, Jianchao Lu, Yun Xiao, Bo Long, Han Yu, Lingfei Wu</i>	
Siamese BERT-Based Model for Web Search Relevance Ranking Evaluated on a New Czech Dataset.....	12369
<i>Matej Kocián, Jakub Náplava, Daniel Štancl, Vladimír Kadlec</i>	
Identifying Early Warning Signals from News Using Network Community Detection.....	12378
<i>Nataliya Le Vine, Eric Boxer, Mustafa Dinani, Paolo Tortora, Subhradeep Das</i>	
Prior-Guided Transfer Learning for Enhancing Item Representation in E-Commerce	12387
<i>Heng-Yi Li, Yabo Ni, Anxiang Zeng, Han Yu, Chunyan Miao</i>	
Contribution-Aware Federated Learning for Smart Healthcare	12396
<i>Zelei Liu, Yuanyuan Chen, Yansong Zhao, Han Yu, Yang Liu, Renyi Bao, Jinpeng Jiang, Zaiqing Nie, Qian Xu, Qiang Yang</i>	
AI Driven Accounts Payable Transformation	12405
<i>Tarun Tater, Neelamadhav Gantayat, Sampath Dechu, Hussain Jagirdar, Harshit Rawat, Meena Guptha, Surbhi Gupta, Lukasz Strak, Shashi Kiran, Sivakumar Narayanan</i>	
Harvest – a System for Creating Structured Rate Filing Data from Filing PDFs	12414
<i>Ender Tekin, Qian You, Devin M. Conathan, Glenn M. Fung, Thomas S. Kneubuehl</i>	
Automatic Product Copywriting for E-Commerce.....	12423
<i>Xueying Zhang, Yanyan Zou, Hainan Zhang, Jing Zhou, Shiliang Diao, Jiajia Chen, Zhuoye Ding, Zhen He, Xueqi He, Yun Xiao, Bo Long, Han Yu, Lingfei Wu</i>	

IAAI TECHNICAL TRACK ON EMERGING APPLICATIONS OF AI

Wasserstein Adversarial Transformer for Cloud Workload Prediction.....	12433
<i>Shivani Arbat, Vinodh Kumaran Jayakumar, Jaewoo Lee, Wei Wang, In Kee Kim</i>	
Picking Pearl from Seabed: Extracting Artefacts from Noisy Issue Triaging Collaborative Conversations for Hybrid Cloud Services	12440
<i>Amar Prakash Azad, Supriyo Ghosh, Ajay Gupta, Harshit Kumar, Prateeti Mohapatra, Lena Eckstein, Leonard Posner, Robert Kern</i>	
Latent Space Simulation for Carbon Capture Design Optimization.....	12447
<i>Brian Bartoldson, Rui Wang, Yucheng Fu, David Widemann, Sam Nguyen, Jie Bao, Zhijie Xu, Brenda Ng</i>	
Micronutrient Deficiency Prediction Via Publicly Available Satellite Data	12454
<i>Elizabeth Bondi, Haipeng Chen, Christopher D. Golden, Nikhil Behari, Milind Tambe</i>	
Using Public Data to Predict Demand for Mobile Health Clinics	12461
<i>Haipeng Chen, Susobhan Ghosh, Gregory Fan, Nikhil Behari, Arpita Biswas, Mollie Williams, Nancy E. Oriol, Milind Tambe</i>	
TCN: Pioneering Topological-Based Convolutional Networks for Planetary Terrain Learning.....	12468
<i>Yuzhou Chen, Yuliya Marchetti, Elena Sizikova, Yulia R. Gel</i>	
CB+NN Ensemble to Improve Tracking Accuracy in Air Surveillance.....	12475
<i>Anoop Karnik Dasika, Praveen Paruchuri</i>	
A Tale of Color Variants: Representation and Self-Supervised Learning in Fashion E-Commerce	12482
<i>Ujjal Kr Dutta, Sandeep Repakula, Maulik Parmar, Abhinav Ravi</i>	
Deploying an Artificial Intelligence Application to Detect Flood from Sentinel 1 Data	12489
<i>Paolo Fraccaro, Nikola Stoyanov, Zaheed Gaffoor, Laura Elena Cue La Rosa, Jitendra Singh, Tatsuya Ishikawa, Blair Edwards, Anne Jones, Komminist Weldermariam</i>	
Facilitating Human-Wildlife Cohabitation Through Conflict Prediction	12496
<i>Susobhan Ghosh, Pradeep Varakantham, Aniket Bhatkhande, Tamanna Ahmad, Anish Andheria, Wenjun Li, Aparna Taneja, Divy Thakkar, Milind Tambe</i>	
PaintTeR: Automatic Extraction of Text Spans for Generating Art-Centered Questions	12503
<i>Sujatha Das Gollapalli, See-Kiong Ng, Ying Kiat Tham, Shan Shan Chow, Jia Min Wong, Kevin Lim</i>	
Flexible-Window Predictions on Electronic Health Records	12510
<i>Mehak Gupta, Raphael Poulain, Thao-Ly T. Phan, H. Timothy Bunnell, Rahmatollah Beheshti</i>	

PART 2

AI for Disaster Rapid Damage Assessment from Microblogs.....	12517
<i>Muhammad Imran, Umair Qazi, Ferda Ofli, Steve Peterson, Firoj Alam</i>	
Designing a Human-In-The-Loop System for Object Detection in Floor Plans.....	12524
<i>Johannes Jakubik, Patrick Hemmer, Michael Vössing, Benedikt Blumenstiel, Andrea Bartos, Kamilla Mohr</i>	

Bayesian Model-Based Offline Reinforcement Learning for Product Allocation.....	12531
<i>Porter Jenkins, Hua Wei, J. Stockton Jenkins, Zhenhui Li</i>	
Learning Space-Time Crop Yield Patterns with Zigzag Persistence-Based LSTM: Toward More Reliable Digital Agriculture Insurance.....	12538
<i>Tian Jiang, Meichen Huang, Ignacio Segovia-Dominguez, Nathaniel Newlands, Yulia R. Gel</i>	
A Machine Learning Method for EV Range Prediction with Updates on Route Information and Traffic Conditions	12545
<i>Dohee Kim, Hong Gi Shim, Jeong Soo Eo</i>	
Domain Reconstruction for UWB Car Key Localization Using Generative Adversarial Networks	12552
<i>Aleksei Kuvshinov, Daniel Knobloch, Daniel Külzer, Elen Vardanyan, Stephan Günnemann</i>	
ALPHAPROG: Reinforcement Generation of Valid Programs for Compiler Fuzzing	12559
<i>Xiaoting Li, Xiao Liu, Lingwei Chen, Rupesh Prajapati, Dinghao Wu</i>	
Combating Sampling Bias: A Self-Training Method in Credit Risk Models	12566
<i>Jingxian Liao, Wei Wang, Jason Xue, Anthony Lei, Xue Han, Kun Lu</i>	
Data-Driven Real-Time Strategic Placement of Mobile Vaccine Distribution Sites.....	12573
<i>Zakaria Mehrab, Mandy L. Wilson, Serina Chang, Galen Harrison, Bryan Lewis, Alex Telionis, Justin Crow, Dennis Kim, Scott Spillmann, Kate Peters, Jure Leskovec, Madhav Marathe</i>	
An Interactive Explanatory AI System for Industrial Quality Control.....	12580
<i>Dennis Müller, Michael März, Stephan Scheele, Ute Schmid</i>	
Inferring Multiple Tissue Properties from Magnetic Resonance Fingerprinting Images	12587
<i>Naren Nallapareddy, Soumya Ray</i>	
Learning to Rank Articles for Molecular Queries	12594
<i>Galia Nordon, Aviram Magen, Ido Guy, Kira Radinsky</i>	
Outlier Detection in Wind Turbine Frequency Converters Using Long-Term Sensor Data.....	12601
<i>Nils Schwenzfeier, Markus Heikamp, Ole Meyer, Andre Hönnscheidt, Michael Steffes, Volker Gruhn</i>	
Mitigating Low Agricultural Productivity of Smallholder Farms in Africa: Time-Series Forecasting for Environmental Stressors	12608
<i>Maryam Tabar, Dongwon Lee, David P. Hughes, Amulya Yadav</i>	
Reinforcement Learning for Datacenter Congestion Control	12615
<i>Chen Tessler, Yuval Shpigelman, Gal Dalal, Amit Mandelbaum, Doron Haritan Kazakov, Benjamin Fuhrer, Gal Chechik, Shie Mannor</i>	
Adaptive Global-Local Context Fusion for Multi-Turn Spoken Language Understanding	12622
<i>Thanh Tran, Kai Wei, Weitong Ruan, Ross McGowan, Nathan Susanj, Grant P. Strimel</i>	
AI-Assisted Controls Change Management for Cybersecurity in the Cloud.....	12629
<i>Harshal Tupsamudre, Arun Kumar, Vikas Agarwal, Nisha Gupta, Sneha Mondal</i>	
Predictive Maintenance for General Aviation Using Convolutional Transformers.....	12636
<i>Hong Yang, Aidan Labella, Travis Desell</i>	
DocBed: A Multi-Stage OCR Solution for Documents with Complex Layouts	12643
<i>Wenzhen Zhu, Negin Sokhandan, Guang Yang, Sujitha Martin, Suchitra Sathyanarayana</i>	

IAAI TECHNICAL TRACK ON INNOVATIVE TOOLS FOR ENABLING AI APPLICATION

- AI Explainability 360: Impact and Design 12651
Vijay Arya, Rachel K. E. Bellamy, Pin-Yu Chen, Amit Dhurandhar, Michael Hind, Samuel C. Hoffman, Stephanie Houde, Q. Vera Liao, Ronny Luss, Aleksandra Mojsilovic, Sami Mourad, Pablo Pedemonte, Ramya Raghavendra, John Richards, Prasanna Sattigeri, Karthikeyan Shanmugam, Moninder Singh, Kush R. Varshney, Dennis Wei, Yunfeng Zhang
- A Simulation-Based Evaluation Framework for Interactive AI Systems and Its Application..... 12658
Maeda F. Hanafi, Yannis Katsis, Martín Santillán Cooper, Yunyao Li
- Seq2Pat: Sequence-To-Pattern Generation for Constraint-Based Sequential Pattern Mining..... 12665
Xin Wang, Amin Hosseinasab, Pablo Colunga, Serdar Kadioglu, Willem-Jan Van Hoeve

IAAI TECHNICAL TRACK ON AI INTEGRATION

- Accelerating COVID-19 Research with Graph Mining and Transformer-Based Learning..... 12673
Ilya Tyagin, Ankit Kulshrestha, Justin Sybrandt, Krish Matta, Michael Shtutman, Ilya Safro

EAAI SYMPOSIUM: FULL PAPERS

- Towards an AI-Infused Interdisciplinary Curriculum for Middle-Grade Classrooms..... 12681
Bitá Akram, Spencer Yoder, Cansu Tatar, Sankalp Boorugu, Ifeoluwa Aderemi, Shiyang Jiang
- College Student Retention Risk Analysis from Educational Database Using Multi-Task Multi-Modal Neural Fusion..... 12689
Mohammad Arif Ul Alam
- A Socially Relevant Focused AI Curriculum Designed for Female High School Students 12698
Lauren Alvarez, Isabella Gransbury, Veronica Cateté, Tiffany Barnes, Ákos Ledécz, Shuchi Grover
- Game Design for Better Security of Combination Locks 12706
Jean Pierre Astudillo Guerra, Karim Ahmed, Ryan Maher, Eddie Ubri, Jeremy Blum
- Interactive Visualizations of Word Embeddings for K-12 Students..... 12713
Saptarashmi Bandyopadhyay, Jason Xu, Neel Pawar, David Touretzky
- Fast Heuristic Detection of Offensive Words in Wordwheel Puzzles 12721
Anand D. Blum, R. Mitchell Parry
- Ludus: An Optimization Framework to Balance Auto Battler Cards..... 12727
Nathaniel Budijono, Phoebe Goldman, Jack Maloney, Joseph B. Mueller, Phillip Walker, Jack Ladwig, Richard G. Freedman
- Predictive Student Modelling in an Online Reading Platform 12735
Effat Farhana, Teomara Rutherford, Collin F. Lynch
- Game Balancing in Dominion: An Approach to Identifying Problematic Game Elements 12744
Cassandra Ford, Merrick Ohata
- I AM A.I. Gradient Descent – an Open-Source Digital Game for Inquiry-Based CLIL Learning..... 12751
Carina Geldhauser, Andreas Daniel Matt, Christian Stussak

Smartphone-Based Game Development to Introduce K12 Students in Applied Artificial Intelligence	12758
<i>Sara Guerreiro-Santalla, Alma Mallo, Tamara Baamonde, Francisco Bellas</i>	
An Experience Report of Executive-Level Artificial Intelligence Education in the United Arab Emirates.....	12766
<i>David Johnson, Mohammad Alsharid, Rasheed El-Bouri, Nigel Mehdi, Farah Shamout, Alexandre Szenicer, David Toman, Saqr Binghalib</i>	
Authentic Integration of Ethics and AI Through Sociotechnical, Problem-Based Learning	12774
<i>Ari Krakowski, Eric Greenwald, Timothy Hurt, Brandie Nonnecke, Matthew Cannady</i>	
Preparing High School Teachers to Integrate AI Methods into STEM Classrooms.....	12783
<i>Irene Lee, Beatriz Perret</i>	
Reproducibility as a Mechanism for Teaching Fairness, Accountability, Confidentiality, and Transparency in Artificial Intelligence.....	12792
<i>Ana Lucic, Maurits Bleeker, Sami Jullien, Samarth Bhargav, Maarten De Rijke</i>	
Introducing Variational Autoencoders to High School Students.....	12801
<i>Zhuoyue Lyu, Safinah Ali, Cynthia Breazeal</i>	
Interpretable Knowledge Tracing: Simple and Efficient Student Modeling with Causal Relations.....	12810
<i>Sein Minn, Jill-Jënn Vie, Koh Takeuchi, Hisashi Kashima, Feida Zhu</i>	
The Bullets Puzzle: A Paper-And-Pencil Minesweeper	12819
<i>Todd W. Neller, Hien G. Tran</i>	
DeepQR: Neural-Based Quality Ratings for Learnersourced Multiple-Choice Questions.....	12826
<i>Lin Ni, Qiming Bao, Xiaoxuan Li, Qianqian Qi, Paul Denny, Jim Warren, Michael Witbrock, Jiamou Liu</i>	
Using Sampling to Estimate and Improve Performance of Automated Scoring Systems with Guarantees	12835
<i>Yaman Kumar Singla, Sriram Krishna, Rajiv Ratn Shah, Changyou Chen</i>	
Artificial Intelligence Approaches to Build Ticket to Ride Maps	12844
<i>Iain Smith, Calin Anton</i>	
Paving the Way for Novices: How to Teach AI for K-12 Education in China.....	12852
<i>Jiachen Song, Linan Zhang, Jinglei Yu, Yan Peng, Anyao Ma, Yu Lu</i>	

EAAI SYMPOSIUM: LIGHTNING TALK

Teaching AI with the Hands-On AI Projects for the Classroom Series.....	12859
<i>Nancye Blair Black</i>	
StoryQ—an Online Environment for Machine Learning of Text Classification.....	12860
<i>William Finzer, Jie Chao, Carolyn Rose, Shiyan Jiang</i>	
AI Snap! Blocks for Speech Input and Output, Computer Vision, Word Embeddings, and Neural Net Creation, Training, and Use	12861
<i>Ken Kahn, Ramana Prasad, Gayathri Veera</i>	

EAAI SYMPOSIUM: MODEL AI ASSIGNMENT ABSTRACTS

Model AI Assignments 2022.....	12863
<i>Todd W. Neller, Jazmin Collins, Daniel Schneider, Yim Register, Christopher Brooks, Chiawei Tang, Chaolin Liu, Roozbeh Aliabadi, Annabel Hasty, Sultan Albarakati, Haotian Fang, Harvey Yin, Joel Wilson</i>	

THE TWENTY - SEVENTH AAI / SIGAI DOCTORAL CONSORTIUM

Towards Robust Named Entity Recognition Via Temporal Domain Adaptation and Entity Context Understanding	12866
<i>Oshin Agarwal</i>	
AI-Driven Road Condition Monitoring Across Multiple Nations	12868
<i>Deeksha Arya, Sanjay Kumar Ghosh, Durga Toshniwal</i>	
Increasing the Diversity of Deep Generative Models.....	12870
<i>Sebastian Berns</i>	
Interpretable Privacy Preservation of Text Representations Using Vector Steganography.....	12872
<i>Geetanjali Bihani</i>	
Using Multimodal Data and AI to Dynamically Map Flood Risk.....	12874
<i>Lydia Bryan-Smith</i>	
Towards Automating the Generation of Human-Robot Interaction Scenarios.....	12876
<i>Matthew C. Fontaine</i>	
An Algorithmic Theory of Markets and Their Application to Decentralized Markets.....	12878
<i>Denizalp Goktas</i>	
Evaluating Explanations of Relational Graph Convolutional Network Link Predictions on Knowledge Graphs	12880
<i>Nicholas Halliwell</i>	
Equilibrium Learning in Auction Markets	12882
<i>Stefan Heidekrüger</i>	
On the Practical Robustness of the Nesterov’s Accelerated Quasi-Newton Method	12884
<i>S. Indrapriyadarsini, Hiroshi Ninomiya, Takeshi Kamio, Hideki Asai</i>	
Creating Interactive Crowds with Reinforcement Learning.....	12886
<i>Ariel Kwiatkowski</i>	
Socially Intelligent Affective AI	12888
<i>Aarti Malhotra</i>	
Dynamic Algorithmic Impact Assessment to Promote an Ethical Use of AI in Businesses.....	12890
<i>Shefeh Prisilia Mbuy</i>	
Creating Interpretable Data-Driven Approaches for Tropical Cyclones Forecasting.....	12892
<i>Fan Meng</i>	
On Semantic Cognition, Inductive Generalization, and Language Models.....	12894
<i>Kanishka Misra</i>	

Mutual Understanding in Human-Machine Teaming	12896
<i>Rohan Paleja</i>	

AAAI STUDENT ABSTRACT AND POSTER PROGRAM

Using Graph-Aware Reinforcement Learning to Identify Winning Strategies in Diplomacy Games (Student Abstract).....	12899
<i>Hansin Ahuja, Lynnette Hui Xian Ng, Kokil Jaidka</i>	
PESTO: Switching Point Based Dynamic and Relative Positional Encoding for Code-Mixed Languages (Student Abstract)	12901
<i>Mohsin Ali, Sai Teja Kandukuri, Sumanth Manduru, Parth Patwa, Amitava Das</i>	
A Deep Learning-Based Face Mask Detector for Autonomous Nano-Drones (Student Abstract).....	12903
<i>Eiman Alnuaimi, Elia Cereda, Rafail Psiakis, Suresh Sugumar, Alessandro Giusti, Daniele Palossi</i>	
Learning Modular Structures that Generalize Out-Of-Distribution (Student Abstract)	12905
<i>Arjun Ashok, Chaitanya Devaguptapu, Vineeth N Balasubramanian</i>	
Manipulating SHAP Via Adversarial Data Perturbations (Student Abstract)	12907
<i>Hubert Baniecki, Przemyslaw Biecek</i>	
Multi-Dimension Attention for Multi-Turn Dialog Generation (Student Abstract)	12909
<i>Billal Belainine, Fatiha Sadat, Mounir Boukadoum</i>	
Deep Learning Based Side Channel Attacks on Lightweight Cryptography (Student Abstract)	12911
<i>Alexander Benjamin, Jack Herzoff, Liljana Babinkostova, Edoardo Serra</i>	
Annotation Cost-Sensitive Deep Active Learning with Limited Data (Student Abstract)	12913
<i>Renaud Bernatchez, Audrey Durand, Flavie Lavoie-Cardinal</i>	
INDEPROP: Information-Preserving De-Propagandization of News Articles (Student Abstract)	12915
<i>Aaryan Bhagat, Faraaz Mallick, Neel Karia, Ayush Kaushal</i>	
A Multimodal Fusion-Based LNG Detection for Monitoring Energy Facilities (Student Abstract).....	12917
<i>Junchi Bin, Choudhury A. Rahman, Shane Rogers, Shan Du, Zheng Liu</i>	
Controlling the Spread of Two Secrets in Diverse Social Networks (Student Abstract).....	12919
<i>Václav Blažej, Dušan Knop, Šimon Schierreich</i>	
Bridging the Gap Between Expression and Scene Text for Referring Expression Comprehension (Student Abstract).....	12921
<i>Yuqi Bu, Jiayuan Xie, Liuwu Li, Qiong Liu, Yi Cai</i>	
Numerical Approximations of Log Gaussian Cox Process (Student Abstract)	12923
<i>Francois Buet-Golfouse, Hans Roggeman</i>	
Thrifty Neural Architecture Search for Medical Image Segmentation (Student Abstract).....	12925
<i>Ruibin Chen, Miao Zhang, Xin Zheng, Shirui Pan</i>	
Learning Contrastive Multi-View Graphs for Recommendation (Student Abstract)	12927
<i>Zhangtao Cheng, Ting Zhong, Kumpeng Zhang, Joojo Walker, Fan Zhou</i>	
An Emotion-Based Multi-Task Approach to Fake News Detection (Student Abstract)	12929
<i>Arjun Choudhry, Inder Khatri, Minni Jain</i>	

Does the Geometry of the Data Control the Geometry of Neural Predictions? (Student Abstract).....	12931
<i>Anirudh Cowlagi, Pratik Chaudhari</i>	
Transformation of Emotions in Images Using Poisson Blended Generative Adversarial Networks (Student Abstract).....	12933
<i>Aristidis Dernelakis, Jungin Kim, Kevin Velasquez, Lee Stearns</i>	
An Optimal Transport Approach to Deep Metric Learning (Student Abstract)	12935
<i>Jason Xiaotian Dou, Lei Luo, Raymond Mingrui Yang</i>	
Transformer-Based Unsupervised Learning for Early Detection of Sepsis (Student Abstract).....	12937
<i>Yutao Dou, Wei Li, Albert Y. Zomaya</i>	
Visual Explanations for Convolutional Neural Networks Via Latent Traversal of Generative Adversarial Networks (Student Abstract).....	12939
<i>Amil Dravid, Aggelos K. Katsaggelos</i>	
Identifying ATT&CK Tactics in Android Malware Control Flow Graph Through Graph Representation Learning and Interpretability (Student Abstract)	12941
<i>Jeffrey Fairbanks, Andres Orbe, Christine Patterson, Edoardo Serra, Marion Scheepers</i>	
Reinforcement Learning Explainability Via Model Transforms (Student Abstract).....	12943
<i>Mira Finkelstein, Lucy Liu, Yoav Kolumbus, David C. Parkes, Jeffrey S. Rosenshein, Sarah Keren</i>	
Wind Prediction Under Random Data Corruption (Student Abstract)	12945
<i>Conner Flansburg, Dimitrios I. Diochnos</i>	
Knowledge-Enhanced Scene Graph Generation with Multimodal Relation Alignment (Student Abstract)	12947
<i>Ze Fu, Junhao Feng, Changmeng Zheng, Yi Cai</i>	
HuggingMolecules: An Open-Source Library for Transformer-Based Molecular Property Prediction (Student Abstract)	12949
<i>Piotr Gainski, Lukasz Maziarka, Tomasz Danel, Stanislaw Jastrzebski</i>	
From Video to Images: Contrastive Pretraining for Emotion Recognition from Single Image (Student Abstract).....	12951
<i>Bhanu Garg, Kijun Kim, Sudhanshu Ranjan</i>	
An Ontological Approach Towards Automatic Creation of Infographics from Formal Text (Student Abstract)	12953
<i>Devin Garg, Tanuj Agarwal, Chiranjoy Chattopadhyay</i>	
JoTA: Aligning Multilingual Job Taxonomies Through Word Embeddings (Student Abstract)	12955
<i>Anna Giabelli, Lorenzo Malandri, Fabio Mercorio, Mario Mezzanzanica</i>	
MBGRLp: Multiscale Bootstrap Graph Representation Learning on Pointcloud (Student Abstract)	12957
<i>Vandan Gorade, Azad Singh, Deepak Mishra</i>	
Memotion Analysis Through the Lens of Joint Embedding (Student Abstract).....	12959
<i>Nethra Gunti, Sathyanarayanan Ramamoorthy, Parth Patwa, Amitava Das</i>	
Contrastive Personalization Approach to Suspect Identification (Student Abstract)	12961
<i>Devansh Gupta, Drishti Bhasin, Sarthak Bhagat, Shagun Uppal, Ponnurangam Kumaraguru, Rajiv Ratn Shah</i>	

A Simplified Benchmark for Ambiguous Explanations of Knowledge Graph Link Prediction Using Relational Graph Convolutional Networks (Student Abstract)	12963
<i>Nicholas Halliwell, Fabien Gandon, Freddy Lecue</i>	
Deep Representation Debiasing Via Mutual Information Minimization and Maximization (Student Abstract)	12965
<i>Ruijiang Han, Wei Wang, Yuxi Long, Jiajie Peng</i>	
Class-Wise Adaptive Self Distillation for Federated Learning on Non-IID Data (Student Abstract)	12967
<i>Yuting He, Yiqiang Chen, Xiaodong Yang, Yingwei Zhang, Bixiao Zeng</i>	
Detecting Neighborhood Gentrification at Scale Via Street Views and POIs (Student Abstract).....	12969
<i>Tianyuan Huang</i>	
A Discriminative and Robust Feature Learning Approach for EEG-Based Motor Imagery Decoding (Student Abstract).....	12971
<i>Xiuyu Huang, Nan Zhou, Kup-Sze Choi</i>	
A Stochastic Momentum Accelerated Quasi-Newton Method for Neural Networks (Student Abstract)	12973
<i>S. Indrapriyadarsini, Shahrzad Mahboubi, Hiroshi Ninomiya, Takeshi Kamio, Hideki Asai</i>	
AsyncFL: Asynchronous Federated Learning Using Majority Voting with Quantized Model Updates (Student Abstract).....	12975
<i>Suji Jang, Hyuk Lim</i>	
Code Representation Learning Using Prüfer Sequences (Student Abstract)	12977
<i>Tenzin Jinpa, Yong Gao</i>	
Gerrymandering Under Uncertain Preferences (Student Abstract)	12979
<i>Benjamin Kelly</i>	
FedCC: Federated Learning with Consensus Confirmation for Byzantine Attack Resistance (Student Abstract).....	12981
<i>Woocheol Kim, Hyuk Lim</i>	
Tracking Down Misguiding Terms for Locating Bugs in Deep Learning-Based Software (Student Abstract)	12983
<i>Youngkyoung Kim, Misoo Kim, Eunseok Lee</i>	
Predicting RNA Mutation Effects Through Machine Learning of High-Throughput Ribozyme Experiments (Student Abstract).....	12985
<i>Joseph Kitzhaber, Ashlyn Trapp, James Beck, Edoardo Serra, Francesca Spezzano, Eric Hayden, Jessica Roberts</i>	
Balancing the Spread of Two Opinions in Sparse Social Networks (Student Abstract).....	12987
<i>Dušan Knop, Šimon Schierreich, Ondrej Suchý</i>	
How to Reduce Action Space for Planning Domains? (Student Abstract).....	12989
<i>Harsha Kokel, Junkyu Lee, Michael Katz, Shirin Sohrabi, Kavitha Srinivas</i>	
A Scalable Parallel Algorithm for Balanced Sampling (Student Abstract)	12991
<i>Alexander Lee, Stefan Walzer-Goldfeld, Shukry Zablah, Matteo Riondato</i>	
TRACER: Extreme Attention Guided Salient Object Tracing Network (Student Abstract)	12993
<i>Min Seok Lee, Wooseok Shin, Sung Won Han</i>	

Social Aware Assignment of Passengers in Ridesharing (Student Abstract)	12995
<i>Chaya Levinger, Noam Hazon, Amos Azaria</i>	
SimCTC: A Simple Contrast Learning Method of Text Clustering (Student Abstract)	12997
<i>Chen Li, Xiaoguang Yu, Shuangyong Song, Jia Wang, Bo Zou, Xiaodong He</i>	
Geotagging Social Media Posts to Landmarks Using Hierarchical BERT (Student Abstract).....	12999
<i>Menglin Li, Kwan Hui Lim</i>	
A Probabilistic Framework for Land Deformation Prediction (Student Abstract)	13001
<i>Rongfan Li, Fan Zhou, Goce Trajcevski, Kunpeng Zhang, Ting Zhong</i>	
Exploring Entity Interactions for Few-Shot Relation Learning (Student Abstract).....	13003
<i>Yi Liang, Shuai Zhao, Bo Cheng, Yuwei Yin, Hao Yang</i>	
MMAN: Metapath Based Multi-Level Graph Attention Networks for Heterogeneous Network Embedding (Student Abstract)	13005
<i>Jie Liu, Lingyun Song, Li Gao, Xuequn Shang</i>	
The Psychology of Semantic Spaces: Experiments with Positive Emotion (Student Abstract)	13007
<i>Xuan Liu, Kokil Jaidka, Niyati Chayya</i>	
Adaptive Safe Behavior Generation for Heterogeneous Autonomous Vehicles Using Parametric- Control Barrier Functions (Student Abstract).....	13009
<i>Yiwei Lyu, Wenhao Luo, John M. Dolan</i>	
Switch-GPT: An Effective Method for Constrained Text Generation Under Few-Shot Settings (Student Abstract).....	13011
<i>Chang Ma, Song Zhang, Gehui Shen, Zhihong Deng</i>	
A Short-Term Tropical Cyclone Intensity Forecasting Method Based on High-Order Tensor (Student Abstract).....	13013
<i>Fan Meng, Handan Sun, Danya Xu, Pengfei Xie, Tao Song</i>	
Early Forecast of Traffic Accident Impact Based on a Single-Snapshot Observation (Student Abstract)	13015
<i>Guangyu Meng, Qisheng Jiang, Kaiqun Fu, Beiyu Lin, Chang-Tien Lu, Zhiqian Chen</i>	
Enumerating Nontrivial Knot Mosaics with SAT (Student Abstract)	13017
<i>Hannah Miller</i>	
Actionable Model-Centric Explanations (Student Abstract)	13019
<i>Cecilia G. Morales, Nicholas Gisolfi, Robert Edman, James K. Miller, Artur Dubrawski</i>	
A Model for the Prediction of Lifetime Profit Estimate of Dairy Cattle (Student Abstract)	13021
<i>Vahid Naghashi, Abdoulaye Banire Diallo</i>	
Explainable Shapley-Based Allocation (Student Abstract)	13023
<i>Meir Nizri, Noam Hazon, Amos Azaria</i>	
Using Reinforcement Learning for Operating Educational Campuses Safely During a Pandemic (Student Abstract).....	13025
<i>Elizabeth Akinyi Ondula, Bhaskar Krishnamachari</i>	
Grad-Align: Gradual Network Alignment Via Graph Neural Networks (Student Abstract).....	13027
<i>Jin-Duk Park, Cong Tran, Won-Yong Shin, Xin Cao</i>	

GRU4RecBE: A Hybrid Session-Based Movie Recommendation System (Student Abstract).....	13029
<i>Michael Potter, Hamlin Liu, Yash Lala, Christian Loanzon, Yizhou Sun</i>	
CL-NERIL: A Cross-Lingual Model for NER in Indian Languages (Student Abstract).....	13031
<i>Akshara Prabhakar, Gouri Sankar Majumder, Ashish Anand</i>	
Aspect-Opinion Sentiment Alignment for Cross-Domain Sentiment Analysis (Student Abstract)	13033
<i>Haopeng Ren, Yi Cai, Yushi Zeng</i>	
XDC: Adversarial Adaptive Cross Domain Face Clustering (Student Abstract)	13035
<i>Saed Rezayi, Handong Zhao, Sheng Li</i>	
Integer and Constraint Programming Revisited for Mutually Orthogonal Latin Squares (Student Abstract)	13037
<i>Noah Rubin, Curtis Bright, Brett Stevens, Kevin Cheung</i>	
Do We Need a New Large-Scale Quality Assessment Database for Generative Inpainting Based 3D View Synthesis? (Student Abstract)	13039
<i>Sadbhawna, Vinit Jakhetiya, Badri N. Subudhi, Harshit Shakya, Deebha Mumtaz</i>	
NEUROCRYPT: Coercion-Resistant Implicit Memory Authentication (Student Abstract).....	13041
<i>Ritul Satish, Nirnanjan Rajesh, Argha Chakrabarty, Aditi Jain, Sristi Bafna, Arup Mondal, Debayan Gupta</i>	
Towards One Shot Search Space Poisoning in Neural Architecture Search (Student Abstract)	13043
<i>Nayan Saxena, Robert Wu, Rohan Jain</i>	
Optimizing Global Influenza Surveillance for Locations with Deficient Data (Student Abstract)	13045
<i>Songwei Shan, Qi Tan, Yiu Chung Lau, Zhanwei Du, Eric H. Y. Lau, Peng Wu, Benjamin J. Cowling</i>	
Prototype-Based Explanations for Graph Neural Networks (Student Abstract).....	13047
<i>Yong-Min Shin, Sun-Woo Kim, Eun-Bi Yoon, Won-Yong Shin</i>	
Modeling Constraints Can Identify Winning Arguments in Multi-Party Interactions (Student Abstract)	13049
<i>Suzanna Sia, Kokil Jaidka, Niyati Chayya, Kevin Duh</i>	
C3D and Localization Model for Locating and Recognizing the Actions from Untrimmed Videos (Student Abstract).....	13051
<i>Himanshu Singh, Tirupati Pallewad, Badri N Subudhi, Vinit Jakhetiya</i>	
On the Relation Between Distributionally Robust Optimization and Data Curation (Student Abstract)	13053
<i>Agnieszka Slowik, Léon Bottou, Sean B. Holden, Mateja Jamnik</i>	
Solving Visual Analogies Using Neural Algorithmic Reasoning (Student Abstract)	13055
<i>Atharv Sonwane, Gautam Shroff, Lovekesh Vig, Ashwin Srinivasan, Tirtharaj Dash</i>	
Criticality-Based Advice in Reinforcement Learning (Student Abstract)	13057
<i>Yitzhak Spielberg, Amos Azaria</i>	
Training Up to 50 Class ML Models on 3 \$ IoT Hardware Via Optimizing One-Vs-One Algorithm (Student Abstract).....	13059
<i>Bharath Sudharsan</i>	

Sampling and Counting Acyclic Orientations in Chordal Graphs (Student Abstract).....	13061
<i>Wenbo Sun</i>	
A Repetitive Spectrum Learning Framework for Monaural Speech Enhancement in Extremely Low SNR Environments (Student Abstract).....	13063
<i>Wenxin Tai</i>	
VeNAS: Versatile Negotiating Agent Strategy Via Deep Reinforcement Learning (Student Abstract)	13065
<i>Toki Takahashi, Ryota Higa, Katsuhide Fujita, Shinji Nakadai</i>	
Hybrid Deep Learning Model for Fake News Detection in Social Networks (Student Abstract)	13067
<i>Bibek Upadhayay, Vahid Behzadan</i>	
Reducing Catastrophic Forgetting in Self Organizing Maps with Internally-Induced Generative Replay (Student Abstract)	13069
<i>Hitesh Vaidya, Travis Desell, Alexander G. Ororbia</i>	
Modeling Abstract Algebra as an OWL Ontology (Student Abstract).....	13071
<i>Michael Vance</i>	
Conditional Collaborative Filtering Process for Top-K Recommender System (Student Abstract).....	13073
<i>Guanyu Wang, Xovee Xu, Ting Zhong, Fan Zhou</i>	
Augmentation of Chinese Character Representations with Compositional Graph Learning (Student Abstract)	13075
<i>Jason Wang, Kaiqun Fu, Zhiqian Chen, Chang-Tien Lu</i>	
Large-Scale IP Usage Identification Via Deep Ensemble Learning (Student Abstract).....	13077
<i>Zhiyuan Wang, Fan Zhou, Kunpeng Zhang, Yong Wang</i>	
BigCQ: Generating a Synthetic Set of Competency Questions Formalized into SPARQL-OWL (Student Abstract).....	13079
<i>Dawid Wisniewski, Jędrzej Potoniec, Agnieszka Lawrynowicz</i>	
Mixed Embedding of XLM for Unsupervised Cantonese-Chinese Neural Machine Translation (Student Abstract).....	13081
<i>Ka Ming Wong, Richard Tzong-Han Tsai</i>	
A Hybrid Evolutionary Algorithm for the Diversified Top-K Weight Clique Search Problem (Student Abstract).....	13083
<i>Jun Wu, Minghao Yin</i>	
NeuralArTS: Structuring Neural Architecture Search with Type Theory (Student Abstract)	13085
<i>Robert Wu, Nayan Saxena, Rohan Jain</i>	
Efficient Attribute (α, β) -Core Detection in Large Bipartite Graphs (Student Abstract).....	13087
<i>Yanping Wu, Renjie Sun, Chen Chen, Xiaoyang Wang</i>	
Proof of Learning: Towards a Practical Blockchain Consensus Mechanism Using Directed Guiding Gradients (Student Abstract)	13089
<i>Yongqi Wu, Xingjun Wang, Chen Chen, Guining Liu</i>	
Learning to Evolve on Dynamic Graphs (Student Abstract)	13091
<i>Xintao Xiang, Tiancheng Huang, Donglin Wang</i>	

Automatic Slides Generation for Scholarly Papers: A Fine-Grained Dataset and Baselines (Student Abstract)	13093
<i>Sheng Xu, Xiaojun Wan</i>	
Crowdsourcing with Meta-Knowledge Transfer (Student Abstract)	13095
<i>Sunyue Xu, Jing Zhang</i>	
Multi-View Adjacency-Constrained Nearest Neighbor Clustering (Student Abstract)	13097
<i>Jie Yang, Chin-Teng Lin</i>	
Learning to Ask for Data-Efficient Event Argument Extraction (Student Abstract).....	13099
<i>Hongbin Ye, Ningyu Zhang, Zhen Bi, Shumin Deng, Chuanqi Tan, Hui Chen, Fei Huang, Huajun Chen</i>	
Fine-Grained Urban Flow Inference Via Normalizing Flow (Student Abstract).....	13101
<i>Haoyang Yu, Xovee Xu, Ting Zhong, Fan Zhou</i>	
Linking Transformer to Hawkes Process for Information Cascade Prediction (Student Abstract)	13103
<i>Liu Yu, Xovee Xu, Ting Zhong, Goce Trajcevski, Fan Zhou</i>	
Enhance Cross-Domain Aspect-Based Sentiment Analysis by Incorporating Commonsense Relational Structure (Student Abstract).....	13105
<i>Yushi Zeng, Guohua Wang, Haopeng Ren, Yi Cai</i>	
Predicting the Influence of Fake and Real News Spreaders (Student Abstract).....	13107
<i>Amy Zhang, Aaron Brookhouse, Daniel Hammer, Francesca Spezzano, Liljana Babinkostova</i>	
Understanding Stochastic Optimization Behavior at the Layer Update Level (Student Abstract)	13109
<i>Jack Zhang, Guan Xiong Qiao, Alexandru Lopotenco, Ian Tong Pan</i>	
From “Dynamics on Graphs” to “Dynamics of Graphs”: An Adaptive Echo-State Network Solution (Student Abstract).....	13111
<i>Lei Zhang, Zhiqian Chen, Chang-Tien Lu, Liang Zhao</i>	
A Multi-Factor Classification Framework for Completing Users’ Fuzzy Queries (Student Abstract).....	13113
<i>Yaning Zhang, Liangqing Wu, Yangyang Wang, Jia Wang, Xiaoguang Yu, Shuangyong Song, Youzheng Wu, Xiaodong He</i>	
Blocking Influence at Collective Level with Hard Constraints (Student Abstract).....	13115
<i>Zonghan Zhang, Subhodip Biswas, Fanglan Chen, Kaiqun Fu, Taoran Ji, Chang-Tien Lu, Naren Ramakrishnan, Zhiqian Chen</i>	
Capsule Graph Neural Network for Multi-Label Image Recognition (Student Abstract)	13117
<i>Xiangping Zheng, Xun Liang, Bo Wu</i>	
Enhance Weakly-Supervised Aspect Detection with External Knowledge (Student Abstract)	13119
<i>Zhuoming Zheng, Yi Cai, Liuwu Li</i>	

AAAI UNDERGRADUATE CONSORTIUM

Efficient Deep Learning for Multi Agent Pathfinding.....	13122
<i>Natalie Abreu</i>	
Demystifying the Chinese Social Credit System: A Case Study on AI-Powered Control Systems in China	13124
<i>Vishakha Agrawal</i>	

Gradient and Magnitude Based Pruning for Sparse Deep Neural Networks	13126
<i>Kaleab Belay</i>	
Spectral DefocusCam: Compressive Hyperspectral Imaging from Defocus Measurements.....	13128
<i>Georgia Channing</i>	
The Importance of Hyperparameter Optimisation for Facial Recognition Applications.....	13130
<i>Hannah M. Claus</i>	
Measuring Students' Engagement with Digital Interactive Textbooks by Analyzing Clickstream Data	13132
<i>Breanne Crockett</i>	
Participatory Machine Learning Models in Femicide News Alert Detection.....	13134
<i>Amelia Lee Dogan</i>	
Robust Rule Learning for Reliable and Interpretable Insight into Expertise Transfer Opportunities.....	13136
<i>Willa Potosnak</i>	
Towards Multimodal Vision-Language Models Generating Non-Generic Text	13138
<i>Wes Robbins</i>	
Deep Learning for Personalized Preoperative Planning of Microsurgical Free Tissue Transfers	13140
<i>Eshika Saxena</i>	
Using Random Perturbations to Mitigate Adversarial Attacks on NLP Models	13142
<i>Abigail Swenor</i>	
Unsupervised Identification of Materials with Hyperspectral Images.....	13144
<i>Mira Welner</i>	
An Extraction and Representation Pipeline for Literary Characters.....	13146
<i>Funing Yang</i>	

AAAI DEMONSTRATION TRACK

Building Goal-Oriented Dialogue Systems with Situated Visual Context	13149
<i>Sanchit Agarwal, Jan Jezabek, Arijit Biswas, Emre Barut, Bill Gao, Tagyoung Chung</i>	
PYLON: A PyTorch Framework for Learning with Constraints.....	13152
<i>Kareem Ahmed, Tao Li, Thy Ton, Quan Guo, Kai-Wei Chang, Parisa Kordjamshidi, Vivek Srikumar, Guy Van Den Broeck, Sameer Singh</i>	
A Goal-Driven Natural Language Interface for Creating Application Integration Workflows	13155
<i>Michelle Brachman, Christopher Bygrave, Tathagata Chakraborti, Arunima Chaudhary, Zhining Ding, Casey Dugan, David Gros, Thomas Gschwind, James Johnson, Jim Laredo, Christoph Miksovich, Qian Pan, Priyanshu Rai, Ramkumar Ramalingam, Paolo Scotton, Nagarjuna Surabathina, Kartik Talamadupula</i>	
UCSM-DNN: User and Card Style Modeling with Deep Neural Networks for Personalized Game AI.....	13158
<i>Daeyeun Choe, Youngbak Jo, Shindong Kang, Shounan An, Insoo Oh</i>	
AI Assisted Data Labeling with Interactive Auto Label.....	13161
<i>Michael Desmond, Michelle Brachman, Evelyn Duesterwald, Casey Dugan, Narendra Nath Joshi, Qian Pan, Carolina Spina</i>	

CrowdFL: A Marketplace for Crowdsourced Federated Learning	13164
<i>Daifei Feng, Cicilia Helena, Wei Yang Bryan Lim, Jer Shyuan Ng, Hongchao Jiang, Zehui Xiong, Jiawen Kang, Han Yu, Dusit Niyato, Chunyan Miao</i>	
CCA: An ML Pipeline for Cloud Anomaly Troubleshooting	13167
<i>Lili Georgieva, Ioana Giurgiu, Serge Monney, Haris Pozidis, Viviane Potocnik, Mitch Gusat</i>	
SenSE: A Toolkit for Semantic Change Exploration Via Word Embedding Alignment	13170
<i>Maurício Gruppi, Sibel Adali, Pin-Yu Chen</i>	
Dynamic Incentive Mechanism Design for COVID-19 Social Distancing	13173
<i>Xuan Rong Zane Ho, Wei Yang Bryan Lim, Hongchao Jiang, Jer Shyuan Ng, Han Yu, Zehui Xiong, Dusit Niyato, Chunyan Miao</i>	
MONICA2: Mobile Neural Voice Command Assistants Towards Smaller and Smarter	13176
<i>Yoonseok Hong, Shounan An, Sunwoo Im, Jaegeon Jo, Insoo Oh</i>	
A Trend-Driven Fashion Design System for Rapid Response Marketing in E-Commerce.....	13179
<i>Lianghua Huang, Yu Liu, Bin Wang, Pan Pan, Rong Jin</i>	
InteractEva: A Simulation-Based Evaluation Framework for Interactive AI Systems.....	13182
<i>Yannis Katsis, Maeda F. Hanafi, Martín Santillán Cooper, Yunyao Li</i>	
ALLURE: A Multi-Modal Guided Environment for Helping Children Learn to Solve a Rubik’s Cube with Automatic Solving and Interactive Explanations	13185
<i>Kausik Lakkaraju, Thahimum Hassan, Vedant Khandelwal, Prathamjeet Singh, Cassidy Bradley, Ronak Shah, Forest Agostinelli, Biplav Srivastava, Dezhi Wu</i>	
MWPToolkit: An Open-Source Framework for Deep Learning-Based Math Word Problem Solvers	13188
<i>Yihuai Lan, Lei Wang, Qiyuan Zhang, Yunshi Lan, Bing Tian Dai, Yan Wang, Dongxiang Zhang, Ee-Peng Lim</i>	
SenTag: A Web-Based Tool for Semantic Annotation of Textual Documents	13191
<i>Andrea Loreggia, Simone Mosco, Alberto Zerbinati</i>	
Silence Or Outbreak – a Real-Time Emergent Topic Identification System (RealTIS) for Social Media.....	13194
<i>Ning Lu, Zhen Yang, Jian Huang, Yaxi Wu, Hesong Wang</i>	
SWWS: A Smart Wildlife Warning Sign System	13197
<i>Alan Ma</i>	
An End-To-End Traditional Chinese Medicine Constitution Assessment System Based on Multimodal Clinical Feature Representation and Fusion	13200
<i>Huisheng Mao, Baozheng Zhang, Hua Xu, Kai Gao</i>	
A Demonstration of Compositional, Hierarchical Interactive Task Learning	13203
<i>Aaron Mininger, John E. Laird</i>	
Smart Out-Of-Home Advertising Using Artificial Intelligence and GIS Data.....	13206
<i>Nader Nader, Rafael Alexandrou, Iasonas Iasonas, Andreas Pamboris, Harris Papadopoulos, Andreas Konstantinidis</i>	
AnomalyKiTS: Anomaly Detection Toolkit for Time Series.....	13209
<i>Dhaval Patel, Giridhar Ganapavarapu, Srideepika Jayaraman, Shuxin Lin, Anuradha Bhamidipaty, Jayant Kalagnanam</i>	

EasySM: A Data-Driven Intelligent Decision Support System for Server Merge.....	13212
<i>Manhu Qu, Jie Huang, Hao Deng, Runze Wu, Xudong Shen, Jianrong Tao, Tangjie Lv</i>	
FORCE: A Framework of Rule-Based Conversational Recommender System	13215
<i>Jun Quan, Ze Wei, Qiang Gan, Jingqi Yao, Jingyi Lu, Yuchen Dong, Yiming Liu, Yi Zeng, Chao Zhang, Yongzhi Li, Huang Hu, Yingying He, Yang Yang, Daxin Jiang</i>	
A Synthetic Prediction Market for Estimating Confidence in Published Work	13218
<i>Sarah Rajtmajer, Christopher Griffin, Jian Wu, Robert Fraleigh, Laxmaan Balaji, Anna Squicciarini, Anthony Kwasnica, David Pennock, Michael McLaughlin, Timothy Fritton, Nishanth Nakshatri, Arjun Menon, Sai Ajay Modukuri, Rajal Nivargi, Xin Wei, C. Lee Giles</i>	
PantheonRL: A MARL Library for Dynamic Training Interactions	13221
<i>Bidipta Sarkar, Aditi Talati, Andy Shih, Dorsa Sadigh</i>	
Semantic Feature Discovery with Code Mining and Semantic Type Detection.....	13224
<i>Kavitha Srinivas, Takaaki Tateishi, Daniel Karl I. Weidele, Udayan Khurana, Horst Samulowitz, Toshihiro Takahashi, Dakuo Wang, Lisa Amini</i>	
LITMUS Predictor: An AI Assistant for Building Reliable, High-Performing and Fair Multilingual NLP Systems	13227
<i>Anirudh Srinivasan, Gauri Kholkar, Rahul Kejriwal, Tanuja Ganu, Sandipan Dandapat, Sunayana Sitaram, Balakrishnan Santhanam, Somak Aditya, Kalika Bali, Monojit Choudhury</i>	
RES: An Interpretable Replicability Estimation System for Research Publications	13230
<i>Zhuoer Wang, Qizhang Feng, Mohinish Chatterjee, Xing Zhao, Yezi Liu, Yuening Li, Abhay Kumar Singh, Frank M. Shipman, Xia Hu, James Caverlee</i>	
PosterBot: A System for Generating Posters of Scientific Papers with Neural Models	13233
<i>Sheng Xu, Xiaojun Wan</i>	
EasySED: Trusted Sound Event Detection with Self-Distillation	13236
<i>Qingsong Zhou, Kele Xu, Ming Feng</i>	

Author Index