

2025 19th International Conference on Advanced Computing and Analytics (ACOMPA 2025)

**Ho Chi Minh City, Vietnam
27-29 November 2025**



**IEEE Catalog Number: CFP25CW3-POD
ISBN: 979-8-3315-9202-8**

**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:	CFP25CW3-POD
ISBN (Print-On-Demand):	979-8-3315-9202-8
ISBN (Online):	979-8-3315-9201-1

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
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2025 19th International Conference on Advanced Computing and Analytics (ACOMPA) **ACOMPA 2025**

Table of Contents

Message from the Conference Chairs	viii
Organizing Committee	ix
Technical Program Committee	x

2025 19th International Conference on Advanced Computing and Analytics

Data Augmentation Strategies for Attention Mechanisms in Acoustic Classification	1
<i>Tran Chau Thanh Thien (Nguyen Tat Thanh University)</i>	
Reward Design for Reinforcement Learning in the Development of Large Language Models	7
<i>Thanh Thi Nguyen (Monash University, Australia), Campbell Wilson (Monash University, Australia), and Janis Dalins (Monash University, Australia; ICMEC Australia, Australia)</i>	
Real-Time Driver Drowsiness Detection and Alert System Using YOLO11 on a Jetson Nano	15
<i>Minh Khoi Cao (University of Science, Vietnam; Vietnam National University, Vietnam), Duc Thien Le (University of Science, Vietnam; Vietnam National University, Vietnam), Phuoc Hoang Khang Nguyen (University of Science, Vietnam; Vietnam National University, Vietnam), Hoang Nhut Tran (University of Science, Vietnam; Vietnam National University, Vietnam), and Chi Nhan Nguyen (University of Science, Vietnam; Vietnam National University, Vietnam)</i>	
An LLM-Powered Agent for Real-Time Analysis of the Vietnamese IT Job Market	22
<i>Minh-Thuan Nguyen (Vietnamese-German University, Vietnam), Thien Vo-Thanh (FPT University, Vietnam), Thai-Duy Dinh (Vietnamese-German University, Vietnam), Xuan-Quang Phan (Mantu Group, Vietnam), Tan-Ha Mai (National Taiwan University, Taiwan), and Lam-Son Lê (Vietnamese-German University, Vietnam)</i>	
Hybrid Parallel Deep Learning Model with Attention Mechanisms for Stock Price Prediction	29
<i>Nguyen Kim Quoc (Nguyen Tat Thanh University, Vietnam) and Nguyen Quang Thinh (Yersin University, Vietnam)</i>	

Fine-Tuning and Evaluating Distilled DeepSeek Models for Code Reasoning	37
<i>Van-Viet Nguyen (Thai Nguyen University of Information and Communication Technology (ICTU), Vietnam), Huu-Khanh Nguyen (Thai Nguyen University, Vietnam), Kim-Son Nguyen (Thai Nguyen University of Information and Communication Technology (ICTU), Vietnam), Hue Luong Thi Minh (Thai Nguyen University of Information and Communication Technology (ICTU), Vietnam), Duc-Quang Vu (Thai Nguyen University of Information and Communication Technology (ICTU), Vietnam), The-Vinh Nguyen (Thai Nguyen University of Information and Communication Technology (ICTU), Vietnam), and Tan-Ha Mai (National Taiwan University, Taiwan)</i>	
Efficient Hybrid Architecture of U-Net and VGG for Liver Cancer Diagnosis	42
<i>Lam Tuan Kiet (University of Information Technology, Vietnam National University, Vietnam) and Ha Minh Tan (University of Information Technology, Vietnam National University, Vietnam)</i>	
Label Smoothing in SE-ResNet50 for Accurate Lung Disease Detection	50
<i>Gia-Phat Nguyen (FPT University, Vietnam), Giang-Nam Luu (Industrial University of Ho Chi Minh city, Vietnam), and Long-Phuoc Tôn (Industrial University of Ho Chi Minh city, Vietnam)</i>	
An Automation Framework for Business Process Evaluation	58
<i>Truong Thai-Minh (Ho Chi Minh City University of Technology, Vietnam) and Tôn Long-Phuoc (Industrial University of Ho Chi Minh city, Vietnam)</i>	
Transformer Models for Long-Term Stock Price Forecasting and LSTM Models for Short-Term Prediction	66
<i>Hanh Vo Thi Xuan (HCMC University of Technology and Education, Vietnam), Minh Huan Vo (Ho Chi Minh City University of Technology and Education Viet Nam), Ngoc Nguyen Vu Phuong (St Anthony's High School, USA), Bao Pham Vu Gia (Le Quy Don High School for the Gifted Viet Nam), and Toai Tran Kim (Ho Chi Minh City University of Technology and Education Viet Nam)</i>	
A Performance Study of Piecewise Constant Approximation in Streaming Data Compression ...	71
<i>Alan Phan (Ho Chi Minh City University of Technology (HCMUT), VNU-HCM, Vietnam), Nhut-Huan La-Quoc (Ho Chi Minh City University of Technology (HCMUT), VNU-HCM, Vietnam), Thanh-Dang Diep (Ho Chi Minh City University of Technology (HCMUT), VNU-HCM, Vietnam), and Nam Thoai (Ho Chi Minh City University of Technology (HCMUT), VNU-HCM, Vietnam)</i>	
GenAI in Higher Education: A Review of Student Adoption and A Future Research Agenda	79
<i>Nguyen Anh Khoa Truong (Van Lang University, Vietnam), Tuan Huynh-Thanh (Van Lang University, Vietnam), Nguyen Duc Khanh Huynh (Van Lang University, Vietnam), Tran Khanh Dang (Lang University, Vietnam; Van Lang University, Vietnam), Thu Ha Nguyen (Van Lang University, Vietnam; Lang University, Vietnam), Thi Thu Huyen Nguyen (Van Lang University, Vietnam; Lang University, Vietnam), and Nguyen Truong Phuoc Phan (Van Lang University, Vietnam; Lang University, Vietnam)</i>	
Exploring Large Language Models for Vietnamese Command Recognition in Smart Home Environments	86
<i>Ky Nguyen Tran Gia (VNUHCM - University of Information Technology, Vietnam), Huy Tran Quang (VNUHCM - University of Information Technology, Vietnam), Nghia Le Hoai (VNUHCM - University of Information Technology, Vietnam), and Duy Doan (VNUHCM - University of Information Technology, Vietnam)</i>	

An Intelligent Virtual Machine Consolidation Approach for Optimizing Energy Consumption in Cloud Environments 91

Khoa Huynh Le Dang (Ho Chi Minh City University of Technology, Vietnam), Quoc Anh Tran Duong (Ho Chi Minh City University of Technology, Vietnam), Quyet Dinh Xuan (Ho Chi Minh City University of Technology, Vietnam), Minh Nguyen Quang (Ho Chi Minh City University of Technology, Vietnam), Thanh Hoang Le Hai (Ho Chi Minh City University of Technology, Vietnam), Quang Hung Nguyen (Ho Chi Minh City University of Technology, Vietnam), and Nam Thoai (Ho Chi Minh City University of Technology, Vietnam)