Nguyen Chi Tam

Computer Vision / Algorithm Researcher

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SUMMARY

I am a Data Engineering student at Ho Chi Minh City University of Technology and Education, with a strong background in Computer Vision and AI for Autonomous Systems. My research experience includes optimizing deep learning architectures for efficient neural networks and developing intelligent vision-based systems for resource-constrained edge devices. While my primary focus has been on AI algorithms, I am also deeply interested in hardware-level acceleration and low-level software optimization for real-time and high-performance computing.

EDUCATION

Bachelor of Engineering in Data Engineering 2020 - 2025
Ho Chi Minh City University of Technology and Education
Background in computer science, including algorithms, data structures, and techniques for optimizing real-time computational performance, high performance computing.

RESEARCH AND WORK EXPERIENCE

Student Research 2021 - Present
Intelligent System Laboratory in Ho Chi Minh City University of Technology and Education

- Conducted research on AI algorithms for self-driving cars and intelligent systems, focusing on image segmentation, object detection, and lane detection.
- Explored topics in video understanding, domain adaptation, reinforcement learning, and efficient AI for autonomous systems.
- Optimized AI algorithms for deployment on edge devices.
- Course assistant for image processing and computer vision courses for engineers in industry, under the guidance of a professor.

SKILL & BACKGROUND KNOWLEDGE

Performance Optimization and real-time for edge devices/HPC systems	SIMD (AVX/SSE), OpenMP, CUDA, Vulkan Compute
Big Data Processing	MapReduce, Hadoop, Spark, Kafka
Statistical & Query Languages	R, SQL (incl. PL/SQL), MongoDB MQL
Programming Languages	Python, Java, C/C++
Containers	Docker, Kubernetes
Framework & library	Pytorch, Tensorflow, Scikit-learn, OpenCV
Typesetting	LATEX, Microsoft Offices
Language	English: Read and write technical and academic documents.

ACHIEVEMENTS & HONORS

- Third prize in the autonomous vehicle programming contest April 2022
applying image processing technology and artificial intelligence at HCMUTE.

PUBLICATIONS

[1] Van-Hoang-Anh Phan, **Chi-Tam Nguyen**, Minh-Thien Duong, Thanh-Danh Phan, Van-Binh Nguyen and My-Ha Le, "Vision-based Perception for Autonomous Vehicles in Obstacle Avoidance Scenarios", 2025 17th International Conference on Human System Interactions (HSI) (Rank C).

[2] **Chi-Tam Nguyen**, Minh-Thien Duong, Thanh-Danh Phan, Van-Binh Nguyen and My-Ha Le, "Forewarning Crossing Intention of Pedestrians Using Multimodal Deep Learning Approach", 2027 7th International Conference on Green Technology and Sustainable Development (GTSD), July 2024.

[3] **Chi-Tam Nguyen**, Thanh-Danh Phan, Minh-Thien Duong, Van-Binh Nguyen, Huynh-The Pham and My-Ha Le, "Vision-based Fall Detection System: Novel Methodology and Comprehensive Experiments", 2023 International Conference on System Science and Engineering, July 2023.

[4] Thanh-Danh Phan, Tan-Thien-Nien Nguyen, Minh-Thien Duong, **Chi-Tam Nguyen**, Hoang-Anh Le and My-Ha Le, "A Steering Strategy for Self-Driving Automobile Systems Based on Lane-Line Detection", 2022 6th International Conference on Green Technology and Sustainable Development (GTSD), July 2022.

[5] Tan-Thien-Nien Nguyen, Thanh-Danh Phan, Minh-Thien Duong, **Chi-Tam Nguyen**, Hong-Phong Ly and My-Ha Le, "Sensor Fusion of Camera and 2D LiDAR for Self-Driving Automobile in Obstacle Avoidance Scenarios", 2022 International Workshop on Intelligent Systems (IWIS), August 2022.

REFERENCE

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