Chen Wu

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PROFILE

I am a Ph.D. student in the Robotics and Autonomous Systems, University of Turku, supervised by Prof. Juha Plosila and Dr. Hashem Haghbayan. My research focuses on multi-objective resource management in autonomous mobile robots, integrating robotics, reinforcement learning, and embedded systems. Previously, I worked for five years in the automotive industry, specializing in AI middleware and embedded system development.

EDUCATION

Ph.D **University of Turku** Oct 2023 – Present

- Robotics and Autonomous Systems
- Thesis: Intelligent Multi-objective Resource Management in Autonomous Mobile Robots (AMRs)

M.Eng **University of Electronic Science and Technology of China** Sep 2015 – Jun 2018

- Automation
- Thesis: Software Design of Data Analysis Module in High Sampling Rate Scopemeter

B.Eng **Jianghan University** Sep 2011– Jun 2015

- Automation
- GPA: 3.4/4.0

PUBLICATIONS

Runtime Energy-Efficient Control Policy for Mobile Robots with Computing Workload and Battery Awareness
2025 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

Chen Wu, Hashem Haghbayan, Abdul Malik, Antonio Miele, Juha Plosila

Optimizing Energy Efficiency in Mobile Robots: A Battery-Aware Dynamic Path Planning Approach
2025 11th International Conference on Control and Robotics Engineering (ICCRE)

Chen Wu, Hashem Haghbayan, Mohsen Heydarzadeh, Eero Immonen, Juha Plosila

OTHER ACADEMIC EXPERIENCES

Research Visit, Politecnico di Milano, System Architectures Group — Milan, Italy, May 2025

- Research visit under the supervision of Associate Professor Antonio Miele, working on resource management in mobile robots and finalizing a collaborative journal publication.

WORK EXPERIENCE

Megatronix, Senior Software Engineer — Wuhan, China, Apr 2022 – Sep 2023

- Developed an around-view monitor system(AVM) on vehicles to improve driving safety and convenience. The system displays various camera views, including a bird's-eye view of the vehicle, which allows the driver to quickly understand the vehicle and parking space orientation.
- Designed a new layered software architecture for the AVMCore SDK, which could be easily integrated into various vehicle platforms, ensuring that the system was robust and resilient in a range of operational conditions.

- Optimized the AVM processing by 30% through the implementation of an image processing pipeline, parallelization techniques, and hardware acceleration using GPU processing.

Mediatek Inc., Embedded System Engineer — Wuhan, China
Jul 2018 – Mar 2022

- Analyzed the performance of AI models (including CNN, ResNet, and MobileNet) and feedback to clients on feasible optimization methods.
- Optimized AI models (reduce model size) for their deployment in mobile and edge devices through the tensorflow model quantization tool.
- Used Tensorflow Lite (Interpreter and Converter) and deployment flow of AI models on embedded devices.

TEACHING EXPERIENCES

Supervised Master Student *Abdul Malik* Thesis: Integrated Energy Consumption Analysis of Autonomous Mobile Robots: A Sensor Fusion Framework with Real-Time SOC Awareness — Feb 2025 – Jun 2025

HONORS AND GRANTS

DPT travel grant to visit *Politecnico di Milano*	May 2025
CSC scholarship to support for doctoral research	May 2023
Excellent Master Graduate	Sep 2017

SKILLS

PROGRAMMING LANGUAGES: C/C++, Python

FRAMEWORKS & LIBRARIES: ROS, PyTorch, Git, LaTex

LANGUAGES: Native: Chinese **Fluent:** English