# Chen Wu

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## PROFILE

I am a Ph.D. student in the Autonomous Systems Lab (ASL), 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

**PhD** **University of Turku**, Robotics — Oct 2023 – Present

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

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

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

**B.Eng** **Jianghan University**, Automation — Sep 2011– Jun 2015

- 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