

Xianjia Yu

RESEARCHER AND ENGINEER · SENSORS, ROBOTICS, AND AI

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“We must be sceptical even of our scepticism.”

Technical summary

Robotics-related experience since 2018 specializing in the fields of localization, mapping, deep learning and machine learning, and multi-modal sensing with various sensors such as cameras, LiDARs, IMU, GPS, and Ultra-Wideband (UWB). Technical skills include Linux (ubuntu), OpenCV, PCL, Git, ROS, Tensorflow and PyTorch, 3D printing, and LaTeX. Programming languages are mainly Python, C++, and PLC. Other experience includes the programming of industrial robots such as Hiwin, ABB, and Yaskawa.

Professional Experience

CURRENT EMPLOYMENT

Kaptas Oy

Turku, Finland

AUTOMATION ENGINEER AND RESEARCHER (FULL-TIME)

Sept. 2024 - present

- machine vision, 3D vision tasks.
- Industrial robot programming
- PLC programing.
- Other tasks whenever needed.

TIERS Lab, University of Turku

Turku, Finland

POSTDOC RESEARCHER (PART-TIME)

Sept. 2024 - present

- Research on multi-modal sensing and perception
- Supervision of master and doctoral students

PREVIOUS EMPLOYMENT

Department of Computing, Faculty of Technology, University of Turku

Turku, Finland

DOCTORAL RESEARCHER(FULL-TIME)

Jan. 2021 - Oct. 2024

- Research Directions
 - Multi-modal sensing and sensor fusion in a multi-robot system (LiDAR, camera, GPS, and Ultra-Wideband (UWB)).
 - AI in robotics including machine learning and deep learning
 - From system level, more about the scalability, security of ROS 2 wireless networks.
- Involving multiple teaching tasks (mainly includes courses related to robotics and AI).
- Supervising master and early-stage doctoral students.
- Actively taking review tasks from various conferences and journals such as IEEE IROS, Journal of Signal Processing, IEEE Transactions on Intelligent Vehicles, Journal of Intelligent and Robotics, and others.

Kaptas Oy

Turku, Finland

AUTOMATION RESEARCHER (PART-TIME) IN R&D

July. 2023 - July. 2024

- Explore the possibility of applying AI in the automation production line.
- Automate the developing process.
- Assist in 3D printing.

DeepBlue Technology LTD. Company

Shanghai, P.R.China

SENIOR ROBOT DEVELOPER IN R&D OF ROBOTICS (FULL-TIME)

May. 2018 - Dec. 2020 (2yrs8mos)

- Autonomous robot system development mainly for commercial applications including autonomous scrubber, autonomous vacuum cleaner, and robot for disinfection and meal delivery.
- Work directions cover robot perception mainly based on LiDAR and visual sensors, SLAM, path planning including coverage path planning, and localization.

China Post

Shanghai, P.R.China

INTERN FOR EMBEDDED SYSTEM

June. 2015 - Dec. 2015 (6mos)

- Work mainly on electronics.
- Assitant for the onsite test.

Education

University of Turku

Turku, Finland

DOCTOR OF SCIENCE (TECH) IN ROBOTICS AND AUTONOMOUS SYSTEM

Jan. 2021 – Oct. 2024

- Recruited as a project researcher at the University of Turku. Main research is on the multi-modal sensing and perception.

Fudan University

Shanghai, P.R.China

MSc (ENG) IN ELECTRONICS ENGINEERING

Sept. 2016 – Jul. 2018

- A double master's degree program between the University of Turku, Turku, Finland and Fudan University, Shanghai, China.
- Thesis on EMG signal processing with machine learning approaches.

University of Turku

Turku, Finland

MSc (TECH) IN INFORMATION AND COMMUNICATION TECHNOLOGY

Sept. 2016 – Jul. 2018

- A double master's degree program between the University of Turku, Turku, Finland and Fudan University, Shanghai, China.

East China University of Science and Technology

Shanghai, P.R.China

BSc IN INFORMATION ENGINEERING

Sept. 2011 – Jul. 2015

- Thesis on aircraft tracking
- Manager of a 50 people size department run by the students inside the university for one year

East China University of Science and Technology

Shanghai, P.R.China

MINOR IN ENGLISH

Mar. 2012 – Jul. 2015

- Second major

Languages

Chinese Mother tongue

English Fluent

Honors & Awards

Note: All references or proofs to the honors and awards below can be found on the website here: <https://realyxj.github.io/>.

2023	Nokia Scholarship , Nokia Foundation	Finland
	Best UAV mapping prize (Team) , EnRich 2023 at Zwentendorf Nuclear Power Plant	Austria
	TES Encourage grant , The Finnish Foundation for Technology Promotion	Finland
	Invited Lecturer , Fudan University	Shanghai, China
2022	Best Paper Award Nomination , FMEC Conference	Paris, France
	DPT travel grant , University of Turku	Turku, Finland
	Visiting researcher , Chiba University	Chiba, Japan
2021	Visiting researcher , Fudan University	Shanghai, China
	Paper selected as a poster , AI Day in Alto University	Espoo, Helsinki
	Best Student Paper as the first author , IEEE ICAS	Montréal, Canada
	Best Paper Award as a co-author , TII R2T2	online
2019	Outstanding Employee Award , Deepblue	Shanghai, China
2017	Second Level Scholarship , Fudan University	Shanghai, China
	Best Paper Award as a co-author , IEEE INCIT	Thailand