

# YUJING JU

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## 🎓 EDUCATION

**Heriot-Watt University (HWU)**, Edinburgh, United Kingdom 2021 – Present

*Undergraduate student* in Robotics, expected June 2025

Cumulative GPA 3.87/4.0

**Ocean University of China (OUC)**, Qingdao, China 2021 – Present

*Undergraduate student* in Computer Science and technology (CS), expected June 2025

Cumulative GPA 3.45/4.0

## 👤 EXPERIENCE

**Honours Dissertation, Heriot-Watt University** Sep. 2024 – Present

*Directed and Heterogeneous Graph Neural Networks for Academic Recommendation* Individual

*Mentor: Wei Pang*(Associate Professor@HWU)

Brief introduction:

- Investigated directed graph and heterogeneous graph neural networks to enhance academic citation recommendations.
- Proposed a novel Layer-wise Heterogeneous Network combining spectrum-based directed graph convolution and heterogeneous graph attention networks.
- Focused on integrating directed citation relationships and complex heterogeneous node interactions to improve model efficiency and recommendation accuracy.

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**FSU Research Intern** June. 2024 – Present

*Open Source Project* Core Contributor

*Mentor: Yushun Dong*(Assistant Professor@FSU)

Brief introduction:

- Research on graph neural network in Model Security.
- Optimize and integrate existing related models.

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**Data Mining Project** June. 2023 – Present

*Group Recommendation with Hypergraph Neural Network* Individual

*Mentor: Yanwei Yu*(Professor@OUC)

Brief introduction: A recommendation model related research project.

- The hypergraph results are innovatively introduced for strict temporary group recommendation, which achieves better results in both commodity recommendation and user recommendation tasks.
- The new model improves the recommendation accuracy of the best existing model MGBR by about 5%.

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**Robotics Projects** Feb. 2024 – May. 2024

*C, Python, Jetson nano, Arduino uno, 24-channel steering control board* Robot Project

*Mentor: Shengke Wang*(Associate Professor@OUC)

Brief introduction:

- YOLO-based object recognition and grasping.
- Insect capture achieved by hexapod robots.

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## AI Algorithm Engineer Intern

July. 2024 – Sep. 2024

ROS, SLAM, FAST-LIO, VINS-FUSION, Ego-Planner, Fast-Racing, Point-LIO AirSim, UnrealEngineUAV  
Project Brief introduction:

- Optimize the UAV path planning algorithm.
- Lightweight large model.
- Build physical simulated environment.
- Develop lightweight VIO devices based on Binocular Camera and IMU.

## ⚙️ SKILLS

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- Programming Languages: Python, C, C++, Java, HTML, CSS, Javascript, PHP, Scala
- Software Skill: Matlab, MySQL, ROS, UnrealEngine, AirSim
- Technical Skill: Markdown, Latex, ego-planner, Fast-LIO, Point-LIO, 3DGS-SLAM, VINS-Fusion
- Data Science Skill: Pytorch, Numpy, Pandas, Scipy, Tensorflow, Matplotlib, Hadoop, Spark
- Embedded Development skill: STM32, Raspberry Pi, Arduino

## ♥️ HONORS AND AWARDS

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Innovation and Entrepreneurship Scholarship	2022
University-Level Outstanding Youth Volunteers	2022

## 📖 MISCELLANEOUS

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- Languages: English - Fluent, Mandarin - Native, Japanese - Basic Proficiency
- GRE score: 146(Verbal) + 170(Quantitative)
- Website: <https://juyujiang.com>
- GitHub: <https://github.com/juyujiang>
- YouTube: <https://www.youtube.com/user/dyodn>