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github.com/t1mkhuan9

Kefeng Huang

+86 13605180448
London, UK

Education

University College London **London, UK**
Master of Engineering in Computer Science ***09/2019 — 06/2023***

- an overall score of 77.9 in Year 3 and 75.9 in Year 2.(First Class Honors)
- Machine Learning for Visual Computing, Machine Learning and Neural Computing, Robotic System, Computer Graphics, Computer System, Research Methods 09/2019 - 06/2021
- Reinforcement Learning, Multi-Agent Artificial Intelligence, Virtual Environment 09/2022 - 06/2023
- Final year project in the field of Multi-agent Reinforcement Learning with Prof. Jun Wang 09/2022 - 05/2023

UCL Chinese Students and Scholars Association Debating Team ***09/2020 — Present***

- Associate Team Leader 03/2022 — Present
- won the "Best Debater" prizes many times

Nanjing Dongshan Foreign Language School **Nanjing, China**

- A-Level 4 A* (Mathematics, Further Mathematics, Chemistry, Physics) 09/2017 — 06/2019
- IELTS 7.5 07/2018
- Gold Award in UK Chemistry Olympiad 03/2019

Research Experience

Robotic System for Identifying and Watering House Plants **10/2021 — 04/2022**
Supervised by Prof. Simon Julier at University College London

- Proved the possibility of an autonomous robotic system to water houseplants by creating one in a simulated environment in ROS Noetic, with a group of 6 people working in different aspects including SLAM, Control, Path Planing, Classification & Detection and Exploration.
- Available on Github repository `https://github.com/Aashvin/COMP0031-PlantBot`.
- **Classification & Detection**: Conducted a literature review on detection and segmentation methods as well as the plant identification networks. Integrated Darknet_ROS package into our project. Modified the package to support different YOLO versions including YOLOv4.
- Available on Github repository `https://github.com/t1mkhuan9/yolov4-ros-noetic`.
- **Score:** 81 in individual literature review, 72 in group report and 80 in individual report

Learning 3D Point Cloud Segmentation by Aggregating 2D Image Semantics **08/2021 — 12/2021**
Self-motivated Research Project

- Projected each 3D point to corresponding image pixels in different frames and used image semantics information to generate 3D point segmentation. Explored two possible approaches: (1) directly using the result produced by image segmentation by choosing the mode among them (2) removed the final layer of the image segmentation network and use the features to get 3D point information.
- Conducted experiments based on the KITTI-Odometry dataset using the ground truth value from SemanticKITTI dataset. Used and adapted Nvidia Segmentation (DeepV3WPlus Network) as the image segmentation method. Trained a simple neural network based on the image semantics features to predict the 3D point semantic label.
- Available on Github repository:
  `https://github.com/t1mkhuan9/image-based-pointcloud-segmentation`

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Internship Experience

UCL Computer Science Robotics Internship **06/2022 - 08/2022**

Supervised by Prof. Simon Julier, Prof. Dimitrios Kanoulas and Dr. Francisco Porto Guerra E Vasconcelos

- Conduct experiments on myAGV robot developed by ElephantRobotics and Huawei. Created a simulated environment in Gazebo with ROS Noetic. Implemented ros packages to (1) read and visualize sensor data (camera, lidar, ...), (2) explore the environment and move along a predefined trajectory with its Mecanum wheels (3) move its arm to specific locations in robot coordinates
- Wrote related course materials for UCL module COMP0128, COMP0129, and COMP0130. Provided demonstration code and comprehensive explanations and tutorials for all of those algorithms.

Recyclone Mobile App Team Leader **10/2020 — 05/2021**

Supervised by Mr. Hardwick James at University College London and Mr. Fergus Kidd at Avanade

- As a team of 3, created an app to encourage people recycle unused materials by showing the drop-off position of the identified item and giving 'points' to them once they have completed one recycle. It motivated people by giving weekly and daily tasks which can earn bonus 'points'. 'Points' will be shown on the global scoreboard and can also be used to redeem in-app rewards.
- Developed and Deployed a SpringBoot backend providing RESTful APIs. Used Azure Computer Vision API to accomplish item identifying tasks. Used MySQL Server to store account details.
- Created the item identifying page and the scoreboard page in the Flutter app and connected it to the backend. Helped teammates with other pages when necessary.
- Organize team's weekly tasks and prepare a weekly report to clients.
- Video Introduction can be found on youtube.
- Received 1st Class Distinction result

Citrix Summer Intern **07/2020 — 08/2020**

Supervised by Senior Software Engineer Mr. Dan Hu

- Created a chrome extension with JavaScript to capture unsafe events happened in the Citrix Workspace, such as pop-up windows. Stored the data in a sqlite database and provided a comprehensive analysis website.
- Received the Silver Award for the project and the Campus Star Award for myself.

China Mobile AI Department Intern **04/2020 — 06/2020**

Supervised by Senior Reseacher Mr. Xiaoming Ma and Mr. Qiang Gu

- Conducted researches on company seals recognition and classification. Provided weekly research report. Implemented ELSDc algorithm along with OpenCv library. Collected company seals images and succeeded to train a neural network with assistance from supervisors.

UCollege X Mobile App **01/2020 — 05/2020**

Self-motivated Development Project

- Scraped university ranking data with python and selenium from QS ranking, Times Raking and US News Ranking.
- Written Flutter App to visualize data stored in the sqlite database. Plotted graphs for each universities ranking details (1) at each year (2) at different ranking websites, (3) of different majors.
- Published on Apple App store and Google Play store until developer account expired.

Skills

Programming Languages	Python, C, C++, Java, Dart, x86-Assembly
Libraries	Pytorch, Numpy, Pandas, Flutter, ...
Communication	Chinese (Native), English (Professional), Japanese (Intermediate)
Interests	Snowboarding, Badminton, Photography