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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 — Present***

- overall 77.9 in Year 3 and 75.9 in Year 2.
- 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

UCL Chinese Debate Team ***09/2020 — Present***

- Team Co-leader 03/2022 — Present

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

- **Brief**: Created an autonomous robotic system to water houseplants 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 YOLOv4. Available on Github repository `https://github.com/t1mkhuan9/yolov4-ros-noetic`.

Image Based Point Cloud Segmentation **08/2021 — Present**

- **Technology**: Experiments are run over KITTI-Odometry dataset as it contains both images and point cloud in each frame. SemanticKITTI is also used to provide the labels. Python is the main programming language as well as Pytorch to train the network. Nvidia Segmentation (DeepV3WPlus) is adapted to extract features from images.
- **Description**: Each 3D point is first projected to images within the same frame and the frames before. It is first implemented to choose the mode of the labels of the same point on different images. Then it is improved by making predictions using the features of the images instead. A network is trained on a new dataset that combines the actual point label and the corresponding images features.

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

- **Robot:** myAGV developed by ElephantRobotics and Huawei, which is the smallest 6 DOF compound robot with Mecanum wheels.
- **Environment:** ROS Noetic. Created a simulated environment in Gazebo.
- Wrote related course materials for UCL module COMP0128, COMP0129 and COMP0130. Read and visualized sensor data (camera, lidar,..). Explored related algorithms including moving the robot in a pre-defined trajectory and moving the arm to a pre-defined location in robot coordinates. Provided demonstration code and comprehensive explanations and tutorials for all of those algorithms.

Recycl.one Mobile App Team Leader **10/2020 — 05/2021**
Supervised by Mr. Hardwick James at University College London and Mr. Fergus Kidd at Avanade *London, UK*

- **Technology**: We used Flutter & Dart to build the mobile app and the backend is written in Java using Spring Boot deployed at Azure providing RESTful APIs. Azure MySQL server and Azure Computer Vision API is also used by the backend.
- **Team Work**: This project was to build a demo app for the client at Avanade to encourage people recycle more materials. We were working as a team of 3 people and our idea is to build an app that can identify the items that people want to recycle and show the drop-off point that collects the corresponding items. Once an item has been recycled, they will receive points on their app account.
- **Personal Contribution**: As I am familiar with both Flutter and Spring Boot, I became the team leader and focus on implementing the backend while helping my teammates with the app development as well.

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

- **Description**: My main work is to use JavaScript to write an chrome extension that can capture events such as pop up windows and visualize the past data under the supervision of a senior engineer. Personally I got the Campus Star Award.

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

- **Description**: I was assigned as an intern in a team focus on extract company seals from the contract. My job was to learn to use the openCV library and implement the ELSDc algorithm to extract circles from the images.

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

- **Description**: This is personal project where python is used to scrape data from websites like QS and Times ranking and then a mobile app written in Flutter visualized the data for a clearer comparison between universities and degrees.

Skills

Programming Languages	Python, C, Java, Dart, x86-Assembly
Libraries	Pytorch, Numpy, Pandas, Flutter
Communication	Chinese (Native), English (Fluent)