WEI-CHENG LAI

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EDUCATION

National Chiao Tung University (NCTU), Hsinchu, Taiwan *09/2015 - 06/2019*

- Bachelor in Electrical and Computer Engineering
- Overall GPA: 3.67/4.3; Last 60 GPA: 4.2/4.3 (69 credits)
- Academic Achievement Award for two semesters (ranked number 1)
- Related Courses: Data Structure *(A+)*, Introduction to Algorithms *(A+)*, Robotics *(A+)*, Sensing and Intelligent Systems *(A+, Rank:1/43)*, Self-Driving Cars *(A)*, Image Processing *(A+)*, Digital Signal Processing *(A)*, Automatic Control Systems *(A-)*, Computer Network *(A+)*, Wireless Computer Network *(A+)*

WORK EXPERIENCE

NCTU, Artificial Intelligence and Multimedia Laboratory

Full-time Research Assistant: supervised by Prof. Wen-Huang Cheng *07/2019 - 12/2019*

- Led a team to develop a new approach to solve the trajectory prediction problem of vehicles and pedestrians in the traffic scene by utilizing the GAN model, Soft Attention, Self-Attention, and Recurrent Visual Attention.
- Developed a trajectory prediction algorithm called AEEGAN which outperforms state-of-the-art methods by at least 23.5% in terms of ADE (average displacement error) in pytorch, and it is accepted by **ACMMM 2020**

Industrial Technology Research Institute (ITRI), Hsinchu, Taiwan

Summer Intern in Intelligent Robot Technology Team *07/2018 - 09/2018*

- Developed the graphical user interface (GUI) and data transmission system of a robotic arm simulator using QT and Protobuf

PROJECTS

Localization, Mapping and Tracking *02/2019 - 06/2019*

- Utilized ROS to develop the ICP-based localization and mapped/tracked algorithms with PCL
- Achieved first place (1/51) in a tracking competition held in the class

Mobile Manipulator *09/2018 - 01/2019*

- Implemented the semantic segmentation algorithm and the pose estimation module of the mobile manipulator with PCL and MoveIt (a robotics manipulation framework in ROS), and integrated all the modules with ROS
- Won first place (1/9) in a Mini-RobotX Manipulation Challenge held in the class

TEACHING EXPERIENCE

National Chiao Tung University (NCTU), Hsinchu, Taiwan

- **Teaching Assistant, Sensing and Intelligent System** *09/2018 - 01/2019*
  - ◇ Developed the semantic segmentation module with fully convolutional network in pytorch for teaching
- **Teaching Assistant, Creative Software Project** *09/2017 - 01/2018*

PUBLICATIONS

- **Wei-Cheng Lai***, Zi-Xiang Xia*, Hao-Siang Lin, Lien-Feng Hsu, Hong-Han Shuai, Wen-Huang Cheng, "Trajectory Prediction in Heterogeneous Environment via Attended Ecology Embedding," accepted by ACM International Conference on Multimedia (**MM 2020**)
- Yung-Shan Su, Shao-Huang Lu, Po Sheng Ser, Wei-Ting Hsu, **Wei-Cheng Lai**, Biao Xie, Hong-Ming Huang, Teng-Yok Lee, Hung-Wen Chen, Lap Fai Yu, Hsueh-Cheng Wang, "Pose-Aware Placing with Semantic Labels - Brandname-Based Affordance Prediction and Cooperative Dual-Arm Active Manipulation," accepted by IEEE/RSJ International Conference on Intelligent Robots and Systems **(IROS 2019)**.

SKILLS

Programming Languages: C, C++, Python
Software: Extensive knowledge of Linux, ROS, Point Cloud Library (PCL), Pytorch, OpenCV, Matplotlib, Numpy, LaTeX
Languages: English (fluent, TOEFL: 107), Mandarin (native)