YOU-YI JAU

Computer Vision and Robotics · SLAM · Deep Learning · Perception

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Education

University of California San Diego (UCSD) – Jacobs School of Engineering *La Jolla, CA. USA*

M.S. in Electrical and Computer Engineering *Exp. Jun. 2020*

- Average GPA: 3.76/4.0
- TA: ECE276A (Sensing and Estimation for robotics)

National Taiwan University (NTU) *Taipei, Taiwan*

B.S. in Electrical Engineering *Sep. 2013 - Jan. 2018*

- Average GPA: 4.14/4.3
- TA: Calculus

Skills

Programming C++, Python – pytorch/ Keras/ Tensorflow, Matlab, Robot Operating System (ROS), JavaScript (back-end), Arduino

Internships

Research Intern, Autodesk research *San Francisco, CA USA*

Project: Floorplan Reconstruction *Jun. 2019 - Sep. 2019*

- Researched deep learning module to reconstruct elements from images, extracting information from architecture designs
- Developed Revit python API to export floorplan images and labels for training, reconstructing walls for floorplans with different styles

Research Intern, AI Center at Inventec Corp. *Taipei, Taiwan*

Project: Indoor Navigation *Jul. 2018 - Sep. 2018*

- Developed robotic control system under ROS framework, successfully achieving cloud training and evaluation
- Trained and tested models using CNN deep reinforcement learning in Tensorflow, reaching success under virtual environment

Software Development Intern, Dell Technology *Taipei, Taiwan*

Project: Tool Development *Jul. 2016 - Aug. 2016*

- Designed the architecture of software tools, to speed up debugging process for server development
- Created debugging tools from back-end algorithm to front-end interface in python, in use for over 1 year

Research & Projects

Research Assistant, Visual Computing in UCSD (Prof. Manmohan Chandraker, Prof. Hao Su) *La Jolla, CA. USA*

Project: Deep Structure From Motion (SFM) *Oct. 2018 - Current*

- Designed deep learning networks for feature detection or description in SFM pipeline, optimizing using self-supervised method
- Implemented 'Superpoint' in pytorch in combination of deep fundamental matrix estimation, working on kitti dataset

Project Manager, Software Engineering - Ubiquitous Computing *La Jolla, CA, USA*

Topic: DreamBook - A Physical E-book *Sep. 2018 - Jan. 2019*

- Innovated ideas using low-fidelity to high-fidelity prototyping, demoing our final product "DreamBook" to the CSE department
- Managed the team of 5 using scrum framework, accomplishing the hardware design in R-pi3 and software design in python

Team leader, HackNTU Hardware Hackathon Competition *Taipei, Taiwan*

Project: Car Safety System *Mar. 2017*

- Invented system to reduce casualties in accidents within 24 hours, winning Enterprise Award from FET & Gatec
- Created prototype of safe car using wood, Arduino, and Linkit, exhibiting 3 features in demo

Researcher, Media IC & System Lab (Prof. Shao-Yi Chien) *Taipei, Taiwan*

Project: Odometry for imprecise Augmented Reality (AR) *Feb. 2016 - Jun. 2017*

- Developed multimedia method based on "ORB-SLAM", aiming to reduce power consumption for AR devices
- Experimented on SLAM with low-resolution image frames, achieving same RMSE loss on trajectory with 10% of original size

Leadership

President of Aboriginal Service Club, NTU (Prof. Chien-Mo Li) *Taipei, Taiwan*

Leader of Public Relations/ Vice President/ President *Sep. 2014 - Jul. 2017*

- Arranged winter/summer camps in aboriginal villages in remote mountains of Taiwan, exposing primary school students to science
- Organized volunteer training with 60 teammates as club president for 6 months, operating 14 day services
- Initiated effective communication and creative thinking between teammates, shaping positive environment in the club

Honors & Awards

2017 **Certificate of Altruistic Award**, NTU *Taipei, Taiwan*

2016 **Scholarship (USD$5,000)**, Lin, Hsiung-Chen Foundation *Taipei, Taiwan*