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

Design and construction Intern, Autodesk research   *Taipei, Taiwan*

PROJECT: RASTER-TO-VECTOR TRANSFORMATION   *Jul. 2018 - Sep. 2018*

- Developed deep learning module using auto-encoder, GAN, RL to transform images into vectorized strokes

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, Machine Learning (Prof. Hung-yi Lee)   *Taipei, Taiwan*

PROJECT: STACK EXCHANGE TAGS COMPETITION ON KAGGLE   *Nov. 2016 - Jan. 2017*

- Devised automatic tag prediction from given titles and answers, learning connections between articles
- Constructed unsupervised learning model (TF-IDF) and Part-Of-Speech method in Python, achieving top 25% in 380 participants

Project, 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
- Remodeled gyro's data into ORB-SLAM as initial transformation matrix for localization, visualizing and interpreting the results

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*
2014	**Certification of Presidential Award**, NTU (top 5% of all NTUEE students)	*Taipei, Taiwan*