# Shang-Wei Hung (Alan)

shung@eng.ucsd.edu
1-619-548-0796
linkedin.com/in/shangweihung
Github/shangweihung
shangweihung.github.io

Seeking **2020 Full-time** in Software Development, ML/ DL
Currently in San Diego, CA

## WORK EXPERIENCE

**Software Engineer Intern** *July 2019 - Aug. 2019*
*Trend Micro Inc.* *Taipei, Taiwan*

- Achieved 3 kinds of **dashboards on Splunk** for monitoring the CPU, memory usage, local storage usage, the health of thread, etc. in each endpoint.
- Developed automatic alert system via slack using anomaly detection(statistics/ sliding window).
- **Expedited debugging time about 30%** by my Splunk App.

**Research Assistant** *June 2018 - Oct. 2018*
*Communication Electronics and Signal Processing Laboratory, NCTU* *Hsinchu, Taiwan*

- Investigated **autonomous driving semantic segmentation model** using RGB and Depth information.
- Proposed ***"Incorporating Luminance, Depth and Color Information by a Fusion-based Network for Semantic Segmentation," in IEEE International Conference on Image Processing, 2019.***
- Developed a multi-modal fusion network based on ERFNet (in IV 2017) and DenseNet (in CVPR 2017).
- **Achieved 71.3% mIoU** on the Cityscapes dataset **with 3.3% improvement over baseline.** by employing luminance images to assist the depth information

## EDUCATION

**University of California San Diego (UCSD)** *Sep. 2018 - June 2020*
*M.S. in Electrical and Computer Engineering, Machine Learning and Data Science* *La Jolla, CA*

- **GPA: 3.75/4.0**
- Courses: Statistical Learning, Computer Vision, Machine Learning for Image Processing, Object-Oriented Programming in C++, Programming for Data Analysis, Recommender System and Web Mining

**National Chiao Tung University (NCTU)** *Sep. 2013 - June 2017*
*B.S. in Electrical Engineering and Computer Science* *Hsinchu, Taiwan*

- Rank: 3/28; Overall GPA: 4.05/ 4.30, 89.87/ 100

## PROJECTS

**Airbnb New User Bookings Challenge on Kaggle** |*Python, Pandas* *Apr. 2020*

- **Improved model performance by 11%** by conducting data cleaning and data engineering, imputing missing values.
- Achieved **top 11% over 1100+ competitors** using **XGBoost**.

**Stereo Matching** |*Python* *Feb. 2020*

- Utilized **epipolar geometry** and NCC to efficiently compute correspondences between different views of the object.
- Implemented **RANSAC** and **8-point algorithm** to eliminate outliers that do not conform to the model.

**Goodreads Rating and Read Prediction Challenge on Kaggle** |*Python, Pandas* *Nov. 2019*

- **Improved 6% accuracy** by implementing **collaborative filtering** of user and book similarities.
- Formulated the task to pairwise preference prediction solved by **latent factor model (SVD algorithm)**.
- **Achieved top 21%/ 28%** among 423/ 847 competitors on Rating/ Read Prediction.

**Image Descriptor** |*Python, PyTorch* *June 2019*

- Implemented CNN-LSTM networks and improved level of detail of captions by appending **attention mechanism**.
- **Achieved BLEU-4 score of 0.1968** on the MS COCO dataset.

**Domain Adaptation on Different Weather Road Scene Segmentation** |*Python, PyTorch* *Mar. 2019*

- Incorporated a domain classifier as a discriminator into two-stream FCN8s to align cross-domain features.
- **Achieved 5-10 % mIoU improvement** in the SYNTHIA dataset.

**Simultaneous Localization and Mapping & Texture Mapping** |*Python* *Feb. 2019*

- Built **partical filter** to fuse and filter data from odometry, IMU and LIDAR scans to localize household robot.
- Projected RGBD information from Kinect to build 2D map using calibration parameters.

## SKILLS

**Programming Language**: Python, C/C++, Java, Node.js, HTML, CSS, R, MATLAB
**Miscellaneous**: PyTorch, TensorFlow, Keras, Django, MySQL, MongoDB, SQLite, Pandas, PySpark, Splunk, Git