

Hsu, Po-Fang(Daniel)

☎ (+886) | ✉ nightheronry@gmail.com | 🌐 nightheronry.github.io | 📱 nightheronry | 📧 nightheronry | 📄 pfhsu

Experience

Software Engineer

Garmin (Asia) Corp.

Aug. 2017 -- Aug. 2019

Division of Cartography Production

New Taipei, Taiwan

- Extracted features from millions of street views segmented into semantically meaningful parts, then integrated GIS database to optimize routing on vehicle navigation. Improved 47.3% routing speed of road in specific area. **#Statics #OpenCV #FCN**
 - Developed the object detection and recognition models for interested features in cartography, such as
 - 102 kinds of traffic signs, traffic lights(including constructed a 60K stratified sampling dataset and applied AdaBoost method to adapt countryside/mountains, suburban and urban area),
 - roadside parking lots(including designed & constructed a 700 dataset),
 - road lanes and lane markings((prototypes with 15 classes including detected pick using Fourier transform, clustered with DBSCAN and classified with unweighted voting), then detected changes of features in different timeframe automatically to speed up the operation of computer assisted cartography by 30%~50% successfully. Finally, built up the active learning based feedback pipeline to collect more data efficiently for improving model.
- #FPN #DEEPLAB #VPGNet #Camera Models#AdaBoost #Active Learning #PostgreSQL(NoSQL)**
- Constructed CI/CD pipeline, then designed and deployed the microservices based ACAS on a GPU enabled Kubernetes cluster made of 3 physical distributed GPU-enabled nodes to serving 200K 5M pixels street images every day.
- #Jenkins X #Harbor #Kubernetes #CI/CD**
- (Experimental) Integrated Garmin TW-MAP Knowledge Base API and Microsoft Bot Framework to develop a dialogue system for POI searching. **#Luis.ai #.Net**
 - (Experimental) Applied and integrated Google Cartographer to construct 3D model of basement parking. **#SLAM #Lidar #IMU #ROS #C++ #Lua**

Adjunct Research Assistance

Academia Sinica

Jan. 2016 -- Jun. 2016

TWISC@NCHU

Taichung, Taiwan

- Developed a MQTT based communication architecture using on our smart grid. **#MQTT**
- Researched the privacy protection issue and implemented k-anonymity and δ -privacy for our smart grid. **#Anonymisation**
- Applied HMM to disaggregate power usages. **#HMM #Power Disaggregation**

Software Engineer, Intern

Industrial Technology Research Institute

May. 2015 -- Dec. 2015

INFORMATION AND COMMUNICATIONS RESEARCH LABORATORIES

Hsinchu, Taiwan

- Android App Development **#Android 6.0 (Card View & Weight & Navigation Drawer)**
- Location-based and Preference-Aware Recommendation **#Topic Model #Recommendation Systems #Bag-of-words**

Education

Taichung, Taiwan

National Chung Hsing University

Sep. 2014 -- Jul. 2016

- M.S. in Computer Science and Engineering. Overall GPA: 3.88/4.3.
- On Semantic Annotation for Sport Video Highlights by Mining User Comments from Live Broadcast Social Network, BWCCA 2018

Miaoli, Taiwan

National United University

Sep. 2010 -- Jun. 2014

- B.S. in Computer Science and Information Engineering. Last 60 GPA: 3.4/4.0.

Additional Experience and Awards

- **2017 Summer D4SG Fellowship, A Analysis of City-level Medical Referral System - A Case Study of Kaohsiung:** Data Engineer. With the guidance of DSP Inc. and Dep. of Health Kaohsiung City.
- **Finalist, 2016 Taipower Open Data Hackathon:** Team Leader. Tried to reduce energy costs by virtualizing power consumption data collected by Taipower Inc. on web. [8/15]
- **Finalist, 2016 Fishackathon in Taipei:** Team Leader. Developed a fish classification Android App using Bag of Words model. Intended to improve bycatch and overfishing by rapid fishes recognizing. [19/26]
- **Marketing Division, 1st NCHU Art Festival:** Organized a student activity. Planned and executed some marketing proposes and art exhibits applying QR code and Arduino technic for promoting funds raising on flyingV, a crowdfunding platform, successfully.
- **First Prize, 2014 NUU CSIE Special Projects on Information Competition:** Team Leader. Completed a social network platform for family member.[1/16]

Other Skills

- Vantage English, TOEFL iBT: 72; Vantage Japanese, JLPT: Level N2; Native Mandarin Chinese