Po-Fang(Daniel) **Hsu**

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Experience

Software Engineer	**Garmin (Asia) Corp.**	**Aug. 2017 -- Aug. 2019**
		New Taipei, Taiwan

Division of Cartography Production
- 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 designed & 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),
  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 efficially for improving model.
  #FPN #DEEPLAB #VPGNet #Camera Models(Calibration & Triangulation) #AdaBoost #Active Learning #Postgres(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	**Taiwan Information Security Center**	**Jan. 2016 -- Jun. 2016**
		Taichung, Taiwan

TWISC@NCHU
- 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**
		Hsinchu, Taiwan

INFORMATION AND COMMUNICATIONS RESEARCH LABORATORIES
- 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.
- **Finallist, 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]
- **Finallist, 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. Planed 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