Yuan-Yao (Mike) Lou

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EDUCATION

Purdue University — West Lafayette, IN
Ph.D. in Electrical and Computer Engineering | Advisors: Prof. Mung Chiang and Prof. Kwang Taik Kim — Aug. 2021 – Present

National Taiwan University — Taipei, Taiwan
M.S. in Computer Science | GPA 3.8 / 4.0 | Advisor: Prof. Ai-Chun Pang — Sep. 2015 – Jun. 2017

National Chiao Tung University — Hsinchu, Taiwan
B.S. in Computer Science | GPA 3.8 / 4.0 | Mentor: Prof. T. Russell Hsing — Sep. 2011 – Jun. 2015

EXPERIENCE

IoT Eye Inc. — Remote
Full-stack Cloud Developer (Contractor) — Apr. 2021 – Aug. 2021

- Built OAM (Operation / Administration / Maintenance) model based on Frappe and Bootstrap frameworks on AWS EC2
- Developed DevOps toolkit to automate deployment / system management / API testing to improve product scalability
- Designed official website based on Frappe and Bootstrap frameworks to support free-trial system and marketing analysis

Independent Researcher — Remote
Collaborator: Prof. T. Russell Hsing and Prof. Stephen B. Weinstein — Dec. 2020 – Aug. 2021

- Served as speaker in Edge and Fog Computing track on IEEE 7th World Forum on Internet of Things
- Proposed intelligent network edge platform with federated learning and distributed SDN and **published at IEEE COMCAS'21**

Silicon Motion Inc. (SIMO) – Algorithm and Technology R&D Center — Taipei, Taiwan
Software Engineer (Supervisor) — Jul. 2020 – Apr. 2021
Software Engineer (Senior) — Dec. 2017 – Jun. 2020

- Developed microservice-based system to automate product design flows and boost development efficiency by 2x
- Devised design-tracking system by graph algorithms with visualized profiling results to enhance design hand-off quality
- **Promoted twice within 24 months to Supervisor** by serving as project owner and on-campus technical recruiter

Ministry of Science and Technology — Taipei, Taiwan
Graduate Researcher / Full-Stack Developer — Sep. 2015 – Sep. 2017

- Enabled microservice-based computation offloading in edge networks by modifying Android Wear OS
- Built network system with load balancing mechanism and developed system metric dashboard for performance monitoring
- **Published research results at IEEE VTS APWCS'18 and ACM MSWiM'16 and one book chapter on Wiley**

Princeton University – EDGE Lab — Princeton, NJ
Research Intern | Advisor: Prof. Mung Chiang — Jul. 2014 – Sep. 2014

- Developed toolkit on Linux and Android to analyze network packets and profile Android app performance
- Built probabilistic Markov model with automated simulation system and visualized numerical results
- **Published research results in IEEE IoT Journal** by proposing LTE mechanism enhancement to support IoT network sessions

SKILLS

Languages Python | Java | C++ | Shell Script | HTML / CSS | Javascript | MATLAB / Octave | CUDA
Tools Django | Flask / Eve | Frappe / MariaDB | MongoDB | Docker | Bootstrap | Scikit-learn | TensorFlow | Git
Platforms Linux | AWS EC2 / S3 / DynamoDB / API Gateway / Lambda | Google App Engine | Android

PUBLICATIONS

Conference

- S. B. Weinstein, **Y.-Y. Lou**, and T. R. Hsing, "Intelligent Network Edge with Distributed SDN for the Future 6G Network," in *IEEE International Conference on Microwaves, Communications, Antennas, Biomedical Engineering & Electronic Systems (COMCAS)*, 2021.
- Y.-Y. Shih, A.-C. Pang, **Y.-Y. Lou**, C.-C. Chuang, L. Zhao, and Z. Ren, "Modularized Service Provisioning at Fog Networks," in *IEEE Vehicular Technology Society (VTS) Asia Pacific Wireless Communications Symposium*, 2018.
- H.-P. Lin, Y.-Y. Shih, A.-C. Pang, and **Y.-Y. Lou**, "A Virtual Local-hub Solution with Function Module Sharing for Wearable Devices," in *ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, 2016.

Journal

- X.-L. Wang, M.-J. Sheng, **Y.-Y. Lou**, and M. Chiang, "Internet of Things Session Management Over LTE — Balancing Signal Load, Power, and Delay," *IEEE Internet of Things Journal*, vol. 3, no. 3, pp. 339–353, 2015.

Book Chapter

- Y.-Y. Shih, A.-C. Pang, and **Y.-Y. Lou**, "Development of Wearable Services with Edge Devices," in *Fog and Fogonomics: Challenges and Practices of Fog Computing, Communication, Networking, Strategy, and Economics*, Y. Yang, J.-W. Huang, T. Zhang, and J. Weinman, Eds., NJ: John Wiley & Sons, Inc., 2020, ch. 13, pp. 325–352.

PROJECTS

MOOC Platform Course Dropout Prediction | KDDCup 2015 Dataset — National Taiwan University
CSIE 5430 – Machine Learning — Dec. 2015 – Jan. 2016

- Acted as team leader to train machine learning models with data transformation and feature engineering
- Achieved 96% of accuracy rate by applying ensemble machine learning (AdaBoosted and Gradient Boosted Decision Tree)

CERTIFICATIONS

AWS	Modern Application Development with Python on AWS (Coursera Specialization with 4 Courses)	2021
Coursera	Machine Learning / Neural Networks and Deep Learning / Convolutional Neural Networks *(in-progress)*	2021
Kaggle	Intro to Machine Learning / Intermediate Machine Learning / Feature Engineering / Intro to Deep Learning	2021
IEEE	IEEE ComSoc Winter School on Fog/Edge Computing	2020

HONORS & AWARDS

Valedictorian of CS Department Graduation Ceremony | National Taiwan University — 2017
Outstanding Teaching Assistant Awards | National Taiwan University — 2016 & 2017
Presidential Awards | National Chiao Tung University — 2014 & 2015
Research Project Funding and Awards | Ministry of Science and Technology — 2014