# 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

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

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**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

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**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 for 5G/6G to IEEE COMCAS'21

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**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

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**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**

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**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

**Language** `Python` `Java` `C++` `Shell Script` `HTML / CSS` `Javascript` `MATLAB / Octave` `CUDA`
**Tool** `Django` `Flask / Eve` `Frappe / MariaDB` `MongoDB` `Docker` `Bootstrap` `Scikit-learn` `TensorFlow` `Git`
**Platform** `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 **(submitted)**.

- 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

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|---|---|
| **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 |