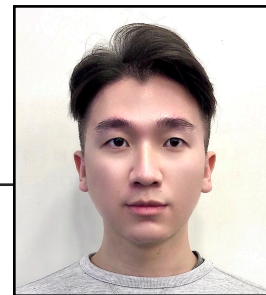


# Yuan-Yao Lou

Senior Software Engineer and Experienced Network Engineer



## PERSONAL STATEMENT

Actively seeking for **Software Development Engineer** and **Backend Engineer** full-time job in 2021.

3 years of experience as Software Engineer, specialized in system design and automation and EDA software development.

3 years of experience as Network Engineer and researcher, specialized in network system design and Android OS development.

Publications relate to Fog/Edge computing and Internet of Things (IoT) with 1 journal paper, 2 conference papers, and 1 book chapter.

## CONTACT

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in yylou (Yuan-Yao Lou)

## PROGRAMMING

Python  
Java  
C/C++  
Scripting  
HTML  
CSS  
Javascript

## SYSTEM & TOOL

Linux  
LAMP  
Android  
Django  
MongoDB  
MySQL  
Git

## LANGUAGE

Chinese  
English  
• GRE 325 / 340  
• TOEFL 100 / 120  
• Rice University ESL Program  
• IEEE ComSoc Winter School

## EDUCATION

- **National Taiwan University** | Taipei, Taiwan  
**M.S. in Computer Science** | 2015/09 - 2017/06
  - **GPA** 3.93 / 4.30
  - **Thesis** Fog/Edge Computing Virtualization for Low-Latency Wearable Services
  - **Awards** Two-time Outstanding TA Awards, Valedictorian of Graduation Ceremony
  - **Courses** Computer Network, Machine Learning, Application of Big Data System
- **National Chiao Tung University** | Hsinchu, Taiwan  
**B.S. in Computer Science** | 2011/09 - 2015/06
  - **GPA** 3.92 / 4.30
  - **Project** Accelerating HEVC by Adopting GPGPU/CUDA
  - **Awards** Two-time Presidential Awards, MOST Research Project Funding and Awards
  - **Courses** Computer Network Administration, IoT Platforms, Free and Open Source Software

## EXPERIENCE

- **Algorithm and Technology R&D Center, Silicon Motion** | New Taipei, Taiwan  
**Supervisor Engineer** | 2020/07 - Present  
**Senior Engineer** | 2017/12 - 2020/06
  - Developed automated software system to boost development efficiency (Python, JSON)
  - Devised design tracking system by graph algorithms and visualized profile data (Python, SQL)
  - Enhanced design handoff quality by bridging EDA tools' APIs with data consistency checks

Major Accomplishments:

  - Coordinated company's first AI product and 7nm/12nm/16nm projects of mobile devices
  - Established programming disciplines (Python) and organized training sessions
  - Served as on-campus technical recruiter at National Taiwan University (2018 - 2019)
  - **Promoted twice within 24 months to Supervisor**
- **Ministry of Science and Technology** | Taipei, Taiwan  
**Graduate Researcher and Network Engineer** | 2015/09 - 2017/09
  - Modified Android Wear OS to enable computation offloading through IoT devices
  - Built edge network on Raspberry Pi and developed low-latency applications (Python, Java)
  - Deployed web applications to control network operation (Django, MongoDB, RESTful API)

Major Accomplishments:

  - Eliminated Android wearable devices' connection and computing limitations
  - Demonstrated Fog/Edge network prototype in 5G workshop held by Ministry of Economic
  - **Published two conference papers (IEEE and ACM) and one book chapter**

## PUBLICATIONS

### Book Chapter

- Yuan-Yao Shih, Ai-Chun Pang, **Yuan-Yao Lou**, "Chapter 13 - Development of Wearable Services with Edge Devices," *Fog and Fogonomics: Challenges and Practices of Fog Computing, Communication, Networking, Strategy, and Economics*, 2020

### Journal Paper

- Xiaoli Wang, Ming-Jye Sheng, **Yuan-Yao Lou**, Mung Chiang, "Internet of Things Session Management Over LTE — Balancing Signal Load, Power, and Delay," *IEEE Internet of Things Journal*, 2015

### Conference Paper

- Yuan-Yao Shih, Ai-Chun Pang, **Yuan-Yao Lou**, Ching-Chih Chuang, Liqiang Zhao, Zhiyuan Ren, "Modularized Service Provisioning at Fog Networks," *IEEE Vehicular Technology Society (VTS) Asia Pacific Wireless Communications Symposium (APWCS)*, 2018
- Hsin-Peng Lin, Yuan-Yao Shih, Ai-Chun Pang, **Yuan-Yao Lou**, "A Virtual Local-hub Solution with Function Module Sharing for Wearable Devices," *ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, 2016

### National Taiwan University Teaching Assistant - Computer Network

| Taipei, Taiwan  
| 2016/02 - 2017/01

- Designed IRC chatbot application as assignment for socket programming training (Python, C)
- Improved program's robustness and stimulated creativity by peer testing mechanism
- Lectured TCP/IP protocol and demonstrated network packets tracing in Wireshark

Major Accomplishments:

- **Received two-time Outstanding TA Awards**

### Princeton University Research Intern in EDGE Lab

| Princeton, NJ, USA  
| 2014/07 - 2015/03

- Investigated Fog/Edge computing, LTE, Internet of Things (IoT), and Machine Learning
- Developed tools to analyze network packets and profile Android app (Python, Java)
- Built probabilistic Markov model with automated simulation and visualized numerical results

Major Accomplishments:

- Proposed LTE mechanism enhancement to support IoT-type network sessions
- **Published one journal paper (IEEE IoT Journal)**

## PROJECTS

### Special Healthcare & Social Distance Tracing for COVID-19 Volunteering Project with IoT Eye Inc.

| 2020/10 - Present

- Explored cellular IoT solutions to help disabled people and Autism
- Supported Android system integration with wearable devices SDK (Java, React Native) for social distance and contact tracing tools
- Deployed website and designed web architecture and style (Django, Wagtail, Saleor)

### MOOC Platform Course Dropout Prediction Machine Learning Course Project

| 2015/12 - 2016/01

- Acted as team leader to train machine learning models and evaluate datasets
- Achieved 96% of accuracy rate by applying ensemble machine learning with factor analysis
- Analyzed complexity and pros-cons of machine learning models for model blending

### MIT App Inventor 2 - LayerBox Feature Open Source Software Course Project

| 2015/03 - 2015/06

- Delivered new feature to improve programmability of visual programming environment
- Attended App Inventor Summit at MIT in Boston, MA, the USA as developer in 2013

### Accelerating HEVC by Adopting GPGPU/CUDA Engineering Course Project

| 2014/07 - 2015/02

- Acted as team leader and planned project milestone with programming assignments
- Focused on reducing decoding/encoding time by decomposing HEVC
- Presented project findings in English on weekly engineering project seminar
- Funded and awarded by delivering proposal to Ministry of Science and Technology