Yu-Tai Lin

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EDUCATION

Master of Science in Computer Science **Sep. 2016 - Jun. 2018**
National Tsing Hua University *Hsinchu, Taiwan*
- Overall GPA: 4.15/4.3
- Courses: Parallel Programming, Multimedia Coding, Data Science, Cloud Computing, Massive Data Analysis, Deep Learning

Bachelor of Science in Engineering Science **Sep. 2012 - Jun. 2016**
National Cheng Kong University *Tainan, Taiwan*

RESEARCH EXPERIENCES

Research Assistant in SNACLab **Aug. 2020 - Present**
Academia Sinica, Taiwan *Taipei, Taiwan*
- Propose a greedy-based bandwidth allocation algorithm for intermittent wireless communication.
- Develop a real-world testbed for an intermittent wireless communication system based on WiFi.
- Propose an ensemble machine learning model (NN+XGBoost) to detect network anomalies.
- Advisor: Prof. Chih-Yu Wang

Research Assistant in VCLab **Sep. 2016 - Aug. 2018**
National Tsing Hua University *Hsinchu, Taiwan*
- Proposed a cluster-based Autoencoder model to predict popular video clips for 5G small cell caching.
- Developed a video clip data collection and pre-processing system.
- Advisor: Prof. Jia-Shung Wang

PUBLICATIONS

[1] Yu-Cheng Hsiao, **Yu-Tai Lin**, and Chih-Yu Wang. "Joint Bandwidth Allocation and Computation Offloading in Multi-Access Edge Computing with Battery-less Intermittent Devices". *IEEE Transactions on Mobile Computing*, (Submitted).

[2] **Yu-Tai Lin**, Yu-Cheng Hsiao, and Chih-Yu Wang. "Enabling Mobile Edge Computing for Battery-less Intermittent IoT Devices". In *2021 IEEE Global Communications Conference(GLOBECOM)*, 2021.

[3] Tzu-Hsin Yang, **Yu-Tai Lin**, Chao-Lun Wu, and Chih-Yu Wang. "Voting-Based Ensemble Model for Network Anomaly Detection". In *2021 IEEE International Conference on Acoustics, Speech and Signal Processing(ICASSP)*, 2021.

[4] **Yu-Tai Lin**, Chia-Cheng Yen, and Jia-Shung Wang. "Video Popularity Prediction: An Autoencoder Approach With Clustering". *IEEE Access*, volume 8, 2020.

[5] Yi-Ting Chen, Chia-Cheng Yen, **Yu-Tai Lin**, and Jia-Shung Wang. "Cooperative Caching Plan of Popular Videos for Mobile Users by Grouping Preferences". In *16th International Conference on Pervasive Intelligence and Computing(PiCom)*, 2018.

AWARDS & HONORS

- 1st place (out of 87 teams globally) of ZYELL-NCTU Network Anomaly Detection Challenge,

IEEE ICASSP Grand Challenge, 2021.

- College Student Research Creativity Award, Ministry of Science and Technology, 2016.

WORK EXPERIENCES

Software Engineer **Nov. 2018 - Aug. 2020**
Synology Inc. *New Taipei, Taiwan*

- **Led user data collection and analysis cloud service design and maintenance.**
  - Optimized cloud service code to improve the stability and performance.
  - Optimized AWS services infrastructure to reduce costs by 30%.
  - Initiated an Infrastructure as Code design to deploy the cloud service quickly.
  - Created a monitoring system to improve service's responsiveness and visibility.
- **Initiated a package installation framework for Docker-based applications to protect the Synology NAS system.**
  - Designed a framework to help Docker applications create docker-compose files.
  - Prevented Docker applications from getting root access to protect the NAS system.
- **Managed package porting and maintenance for Synology NAS.**
  - Optimized the package installation framework.

Software Engineer (Intern) **Jul. 2014 - Aug. 2014**
Gigabyte Inc. *New Taipei, Taiwan*

- Collaborated with a team to build a PC-cluster environment.
- Conducted experiments to compare performance between PC-cluster and server environments.

SELECTED PROJECTS

Network Anomalies Detection ***ICASSP Grand Challenge, 2021***

- Led a team with 3 members to develop a machine learning model to detect network anomalies.
- Optimized cooperation by introducing code review and Git to the team.
- Won 1st place (out of 87 teams globally) of ICASSP Grand Challenge.

Smart Door System ***Cloud Programming course project, 2017***

- Collaborated with 2 teammates to design a cloud service based on AWS.
- Led server back-end development and IoT device development.

Rating System For Dancing Gesture Correctness ***Undergraduate research project, 2015***

- Built a system using an RGB-D sensor to improve correctness of dancing gestures.
- Designed a method to calculate dancing gesture correctness.
- Won the 2016 College Research Creativity Award from the Ministry of Science and Technology.

LEADERSHIP EXPERIENCE

Team Captain **Nov. 2013 - Aug. 2015**
Engineering Science Department Basketball Team *Tainan, Taiwan*

- Led the department team to the quarterfinals in the Inter-departmental Cup.

TECHNICAL SKILLS

- **Programming Languages**: Python, C/C++, JavaScript, PHP, Matlab
- **Operating System**: Linux
- **Database**: MySQL, SQLite, Elasticsearch, Prometheus
- **Others**: AWS, Docker, Git, Tensorflow, GDB, Grafana, Flask