Yu-Tai Lin

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EDUCATION

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

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

RESEARCH EXPERIENCES

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

National Tsing Hua University · Hsinchu, Taiwan
Research Assistant in VCLab · *Sep. 2016 - Aug. 2018*
- Propose a cluster-based AutoEncoder Model to predict popular video clips.
- Develop a video clips data collection and pre-processing system.
- Advisor: Prof. Jia-Shung Wang

PUBLICATIONS

[1] **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 (Accepted).

[2] 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.

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

[4] 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

Synology Inc.   **New Taipei, Taiwan**
Software Engineer   *Nov. 2018 - Aug. 2020*
- **In charge of user data collection and device analysis cloud service design and maintenance.**
  - Optimize the cloud service code to improve the stability and performance.
  - Optimize the AWS services infrastructure to reduce 30% costs.
  - Initiate an infrastructure as code design with CloudFormation to deploy the cloud service fast.
  - Create a monitoring system for the service with Prometheus and Grafana to improve the service responsiveness and visibility.
- **Develop a package installation framework for Docker-based applications to protect Synology NAS system.**
  - Design a new framework to help Docker-based applications to create docker-compose file.
  - Prevent Docker applications getting root access to jeopardize the NAS system.
- **Packages porting and maintenance for Synology NAS.**
  - Optimize the package installation framework.

Gigabyte Inc.   **New Taipei, Taiwan**
Software Engineer (Intern)   *Jul. 2014 - Aug. 2014*
- Collaborate with a team to build a PC-cluster environment.
- Conduct experiments on the performance comparison between PC-cluster and server.

SELECTED PROJECTS

Network Anomalies Detection   ***ICASSP Grand Challenge***
- Lead a team with 3 members to develop a machine learning model to detect network anomalies.
- Optimize the teamwork process by introducing code review and git to the team.
- Win 1st place (out of 87 teams globally) of ICASSP Grand Challenge.

Smart Door System   ***Cloud Programming course project***
- Collaborate with 2 team members to design a cloud service based on Amazon AWS.
- In charge of server back-end development.
- In charge of IoT devise development.

Rating System For Dancing Gesture Correctness   ***Undergraduate research project***
- Build a system using a RGB-D sensor to improve dancing gesture correctness.
- Design a calculation method to represent dancing gesture correctness.
- Receive the College Research Creativity Award from the Ministry of Science and Technology in 2016.

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

LEADERSHIP EXPERIENCE

Engineering Science Department Basketball Team   **Tainan, Taiwan**
Team Leader   *Nov. 2013 - Aug. 2015*
- Lead the department team to the quarterfinals in the Inter-department Cup.