Yu-Tai Lin

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EDUCATION

Ph.D. in Electrical and Computer Engineering　　　　　　　**Aug. 2022 - Aug. 2027 (Expected)**
Georgia Institute of Technology　　　　　　　　　　　　　　　　　　　*Atlanta, USA*

Master of Science in Computer Science　　　　　　　　　　**Sep. 2016 - Jun. 2018**
National Tsing Hua University　　　　　　　　　　　　　　　　　　　*Hsinchu, Taiwan*

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

RESEARCH EXPERIENCES

Research Assistant in MARGA　　　　　　　　　　　　　　　　**Aug. 2022 - Present**
Georgia Institute of Technology　　　　　　　　　　　　　　　　　　*Atlanta, USA*
- Propose a cooperative and communication-aware wireless localization system.
- Design an RF-based exercises recognition and repetition counting system.
- Advisor: Prof. Karthikeyan Sundaresan

Research Assistant in SNACLab　　　　　　　　　　　　　　　**Aug. 2020 - Jul. 2022**
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.
- 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] Alan Liu, **Yu-Tai Lin**, and Karthikeyan Sundaresan. "View-agnostic Human Exercise Cataloging with Single MmWave Radar". In *ACM IMWUT / UbiComp*, 2024.

[2] **Yu-Tai Lin** and Karthikeyan Sundaresan. "A New Paradigm of Communication-Aware Collaborative Positioning for FutureG Wireless Systems". In *24th ACM MobiHoc*, 2023.

[3] **Yu-Tai Lin**, Chi-Yang Kuo, Ming-Hsuan Tsai, and Chih-Yu Wang. "Queueing Model for Intermittent Communication and Computing of Battery-less Edge Computing". In *2023 IEEE International Conference on Communications Workshops(ICC Workshops)*, 2023.

[4] **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.

[5] 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.

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

[7] 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

- Georgia Tech ECE Telecom connections best presenter award, USA, 2023
- NSF Student Travel Grant for ACM MobiHoc 2023, National Science Foundation, USA, 2023
- 1st place (out of 87 teams from around the world) of ZYELL-NCTU Network Anomaly Detection Challenge, IEEE ICASSP Grand Challenge, 2021.
- Undergraduate Research Creativity Award, Ministry of Science and Technology, Taiwan, 2016.
- Research Grant For Undergraduate Students, Ministry of Science and Technology, Taiwan, 2015.

ACADEMIC SERVICES

- Reviewer of Journal of network and computer applications

WORK EXPERIENCES

Software Engineer   **Nov. 2018 - Aug. 2020**
Synology Inc.   *New Taipei, Taiwan*
- **Led product 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.
- Organized team cooperation and introduced 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 Rehabilitation Gesture Correctness   ***Undergraduate research project, 2015***
- Built a system using an RGB-D sensor to improve correctness of rehabilitation gestures.
- Designed a method to calculate rehabilitation gesture correctness.
- Won the 2016 Undergraduate Research Creativity Award from the Ministry of Science and Technology, Taiwan.

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