



# Michael I-Chih Wang

Dual PhD Candidate in ECE of NYU/NCTU

## PUBLICATIONS

### ACM Transactions on Cyber-Physical Systems (TCPS)

"Roadrunner+: An Autonomous Intersection Management Cooperating with Connected Autonomous Vehicles and Pedestrians with Spillback Considered." (2021)

### IEEE 23rd International Conference on Intelligent Transportation Systems (ITSC)

"Roadrunner: Autonomous Intersection Management with Dynamic Lane Assignment," (2020)

### IEEE Journal on Selected Areas in Communications (JSAC)

"Dynamic Switch Migration in Distributed Software-Defined Networks to Achieve Controller Load Balance" (2019)

### IEEE/ACM International Symposium on Quality of Service (iwqos)

"Improving Quality of Experience of Service-Chain Deployment for Multiple Users", (2018)

## CONTACT

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## SKILLS

C/C++, Python, C#, Java, System Design

Parallel programming, stream computing

Openflow, Software Defined Network,

Mininet, vehicular microsimulation

Embedded system: Arduino, R-Pi

Learnt Verilog, IC layout

## EDUCATION

### PhD Candidate in ECE,

#### New York University / National Chiao Tung University

2018 – 2023 (expected)

NCTU- Computational Intelligence on Automation Lab (GPA: 4.3/4.3)

NYU- High Speed Networking Lab (GPA: 3.83/4.0)

- Research: Connected Autonomous Vehicle Management using 5G technology

### M.S. in ECE, National Chiao Tung University

2016 – 2018

- GPA: 4.05/4.3, Research: "Improving Quality of Experience of Service-Chain Deployment for Multiple Users"

## WORK EXPERIENCE

### MediaTek Inc. Software/Firmware Engineer

2022/07–2022/08 (internship)

- Automate the fuzz test on internal control commands on smartphone modems
- Analyzing call setup times with the logs from smartphone modems
- Visualize the logs and extract SIP-related messages for debugging
- Create a tool to parse 5G-EAP packets for modem development
- Study 3GPP Spec to find potential improvement in smartphone modems

### NYU, NCTU Teaching Assistant

2018/09–2022/06

- Algorithm; Parallel Programming; Human Centric Computing Lab
- Data Center and Cloud Computing; Internet Architecture & Protocols

### Logitech Inc. Software Engineer

2015/07–2016/01 (internship)

- Write a Java library for engineers to connect Logitech firmware with Android system.
- Use R-pi to build an embedded system for color synchronization between devices.

## AWARDS & SCHOLARSHIP

Rank	Competition
2 <sup>nd</sup>	2021 IEEE ComSoc Student Competition Prizes
1 <sup>st</sup>	2021 NYCU SDG Student Poster Competition
	2021 SDG Academic Dissertation Award - Ph.D. Dissertation Award
2 <sup>nd</sup>	Logitech Hack Days 2017, AR Remote-Control Car Driving with Gaming Force-Feedback Wheel
2 <sup>nd</sup>	Mobile Heroes 2016, SCMan: Service Chaining Management
2 <sup>nd</sup>	Haitec Workshop 2016, Distance Measurement with Camera Binocular vision
2 <sup>nd</sup>	MediaTek LinkIn Hackathon 2016, e-AR
2 <sup>nd</sup>	Campus Cloud Innovative Application Competition 2014, uSecureVote
1 <sup>st</sup>	International ICT Innovative Services Contest 2014, SigNo Saver

### Scholarship

2016~2022 International Training Program for Talents hosted by Ministry of Education (Taiwan)

2016 Chinese Institute of Engineers: Excellent Engineering Student Scholarship

2014 National Chao Tung University Wiki Partnership Fund

## INVITED PRESENTATIONS & PAPER REVIEWS

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### Logitech Inc.- invited presentations

- 2020/07/31, Tips for presentation summer Internship Program 2020
- 2020/04/15, Tips for presentation Spring Internship Program 2020
- Topic: "How To Give a Great Presentation"

### INVITED PAPER REVIEWS

- 2023, 2021, 2019- IEEE International Conference on Information Networking (ICOIN)
- 2022, 2021, 2019- IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN)
- 2022- IEEE International Conference on Ubiquitous and Future Networks (ICUFN)
- 2021- IEEE International Conference on Information and Communication Technology Convergence (ICTC)
- 2021- IEEE International Workshop on High-Precision, Predictable, and Low-Latency Networking (HiPNet)
- 2020- IEEE Transactions on Cloud Computing (TCC)
- 2020- IEEE Transactions on Communications (TCOM)
- 2020- IEEE International Conference on Intelligent Transportation Systems (ITSC)

## PROJECTS

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- Implementing **multi-site MEC** with service chains for research demonstration in NCTU
- **Android application:** SigNo Saver (A self-rescue system supported by smartphones without any base station signal) ([https://youtu.be/jw0rxk\\_yErY](https://youtu.be/jw0rxk_yErY))
- **Android application:** uSecureVote (A secured voting system with concept of M2M)
- **Edge computing:** network traffic detection and analysis system
- Research project: interference cancellation in **wireless ad-hoc networks**
- **VLSI project:** TPU design (<https://youtu.be/04YPPTCdGKc>)
- **Embedded system project:** multi-access Point of Sale (POS) system with ARM boards
- **Kinect C#:** enabling motion control of games
- **Parallel programming:** simulating Brownian motion with OOP
- Control design project: voice-control car (<https://youtu.be/mRPuy-DGUzi>)
- Circuit design & implementation: elevator controls (<https://youtu.be/556UJgaba0s>)
- **Entrepreneurship** experience: FallCare (A privacy-awarded falling detection for elderlies) (<https://youtu.be/xK0ZW3PbFls>)

## INVITED PRESENTATIONS & PAPER REVIEWS

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- Graduate student orientation leader, NYU, 2019
- Director of Changhua Area Alumni Association, NCTU, 2015
- Activities Officer of Harmonica Club, NCTU, 2015

## OTHER PUBLICATIONS

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- "Assessing the Impact of Communication Delays for Autonomous Intersection Management Systems," IEEE Transactions on Intelligent Transportation Systems, (under review)
- "Hierarchical Cooperation and Load Balancing for Scalable Autonomous Vehicle Routing in Multi-Access Edge Computing Environment," IEEE Transactions on Vehicular Technology, 2023
- "Enabling Malware Detection with Machine Learning on Programmable Switch," 2022 IEEE/IFIP Network Operations and Management Symposium (NOMS), 2022
- "Parcel-Fit: Low Network-Overhead Service-Chain Deployment for Better Datacenter Performance," 2019 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN). IEEE, 2019.
- "In-network Congestion-aware Load Balancing at Transport Layer," 2019 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFVSDN). IEEE, 2019
- "Deploying QoSassured Service Function Chains with Stochastic Prediction Models on VNF Latency," IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN), November 2017