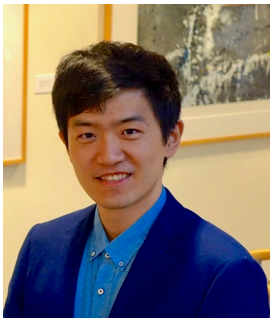

Dongyao Chen

School of Computing and Information Systems
Singapore Management University (SMU)
80 Stamford Road
Singapore 178902

Email: dychen@smu.edu.sg
Office Phone: (+65) 68280068

EDUCATION

Ph.D. in Computer Science and Engineering, University of Michigan-Ann Arbor, USA, 2020

M.S. in Electrical Engineering, University of Michigan-Ann Arbor, USA, 2015

B.S. in Electrical Engineering, Shanghai Jiao Tong University, China, 2013

ACADEMIC APPOINTMENTS

Assistant Professor (tenure-track), Shanghai Jiao Tong University, 2020-2026

OTHER POSITIONS HELD

Research Intern, Hewlett Packard Labs, Palo Alto, USA, May. 2016 – Sept. 2016

AWARDS AND HONORS

Distinguished Paper Award, UbiComp, 2025
Best Paper Award, VehicleSec, 2023
Rackham Graduate School Travel Grant, 2017, 2015
CoNEXT 2017 Travel Grant, 2017
MobiSys 2015 Travel Grant, 2015
National Scholarship, 2% of all students, SJTU, 2010

PROFESSIONAL MEMBERSHIP

ACM
Member, 2020-present

RESEARCH

My research interests focus on bridging the gap between ourselves and machines by building human-centric sensing systems. My works not only empower individuals to better understand and improve their mobility, safety, and well-being, but also fuel innovations in broader domains like autonomous driving and robotics.

PUBLICATIONS

(Underlined authors are my direct advisees)
DualStrike: Accurate, Real-time Eavesdropping and Injection of Keystrokes on Commodity Keyboards
Xiaomeng Chen, Jike Wang, Zhenyu Chen, Xinbing Wang, Alfred Chen, Dongyao Chen
Network and Distributed System Security (NDSS) Symposium, 2026

Bridge: Enabling BLE Direction Finding Feature Compatible with All Bluetooth Devices
Runting Zhang, Yijie Li, Dian Ding, Yi-Chao Chen, Yida Wang, Dongyao Chen, Jingxian Wang, Jiadi Yu, Ling Ma, and Guangtao Xue
The ACM International Conference on Mobile Computing and Networking (ACM MobiCom), 2025

MagDesk: Interactive Tabletop Workspace based on Passive Magnetic Tracking
[Distinguished Paper Award]
Kunpeng Huang, Yasha Iravantchi, Dongyao Chen, Alanson Sample
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), 2025

Polaris: Accurate, Vision-free Fiducials for Mobile Robots with Magnetic Constellation
Jike Wang, Yasha Iravantchi, Alanson Sample, Kang G. Shin, Xinbing Wang, Dongyao Chen
The ACM International Conference on Mobile Computing and Networking (ACM MobiCom), 2024

MagDot: Drift-free, Wearable Joint Angle Tracking at Low Cost
Dongyao Chen, Qing Luo, Xiaomeng Chen, Xinbing Wang, and Chenghu Zhou
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (UbiComp), 2024

METRO: Magnetic Road Markings for All-weather, Smart Roads

Jike Wang, Shanmu Wang, Yasha Iravantchi, Mingke Wang, Alanson Sample, Kang G. Shin, Xinbing Wang, Chenghu Zhou, and Dongyao Chen
The ACM International Conference on Mobile Computing and Networking (ACM SenSys), 2023

Guess Which Car Type I Am Driving: Information Leak via Driving Apps
[Best Paper Award]
Dongyao Chen, Mert D. Pesé, and Kang G. Shin
The Inaugural Symposium on Vehicle Security & Privacy (VehicleSec), 2023

Automatic Calibration of Magnetic Tracking
Mingke Wang, Qing Luo, Yasha Iravantchi, Xiaomeng Chen, Alanson Sample, Kang G. Shin, Xiaohua Tian, Xinbing Wang, and Dongyao Chen
The ACM International Conference on Mobile Computing and Networking (ACM MobiCom), 2022

Enabling Software-defined PHY for Backscatter Networks
Fengyuan Zhu, Mingwei Ouyang, Luwei Feng, Yaoyu Liu, Xiaohua Tian, Meng Jin, Dongyao Chen, and Xinbing Wang
ACM International Conference on Mobile Systems, Applications and Services(ACM MobiSys), 2022

DETROIT: Data Collection, Translation and Sharing for Rapid Vehicular App Development
Mert D. Pesé, Dongyao Chen, C. Andrés Campos, Alice Ying, Troy Stacer, and Kang G. Shin
IEEE International Conference on Sensing, Communication and Networking (SECON), 2022

Wearable, untethered hands tracking with passive magnets
Dongyao Chen, Mingke Wang, Chenxi He, Qing Luo, Yasha Iravantchi, Alanson Sample, Kang G. Shin, and Xinbing Wang
The ACM International Conference on Mobile Computing and Networking (ACM MobiCom), 2021

Authenticating Drivers Using Automotive Batteries
Liang He, Yuanchao Shu, Youngmoon Lee, Dongyao Chen, and Kang G. Shin
ACM International Conference on Ubiquitous Computing (ACM UbiComp), 2020

LibreCAN: Automated CAN Message Translator
Mert D. Pesé, Troy Stacer, C. Andrés Campos, Eric Newberry, Dongyao Chen, and Kang G. Shin
ACM Conference on Computer and Communications Security (CCS), 2019

Exploiting Mobile Kinetic Data for Transportation Apps
Dongyao Chen and Kang G. Shin
In Proceedings The 28th ACM International Conference on Information and Knowledge Management (CIKM), 2019

TurnsMap: Enhancing Traffic Safety with Crowdsensing and Deep Learning
Dongyao Chen and Kang G. Shin
ACM International Conference on Ubiquitous Computing (ACM UbiComp), 2019

Tracking and Locating Bluetooth Beacons with Smartphones
Dongyao Chen, Kang G. Shin, Yurong Jiang, Kyu-Han Kim
ACM Conference on Emerging Network Experiment and Technology (ACM CoNEXT), 2017

Invisible Sensing of Vehicle Steering with Smartphones
Dongyao Chen, Kyong-Tak Cho, Sihui Han, Zhizhuo Jin, and Kang G. Shin
ACM International Conference on Mobile Systems, Applications and Services(ACM MobiSys), 2015

Vulnerability and Protection of CSI in Multiuser MIMO Networks
Yu-Chih Tung, Sihui Han, Dongyao Chen, and Kang G. Shin
ACM Conference on Computer and Communications Security (CCS), 2014

RESEARCH GRANTS

Research on Accurate Motion Capture with Magnetic Sensing
Funding Agency: National Science Foundation of China (NSFC)
Amount: $70K (USD), PI
Acceptance rate: 11%

Research on Ubiquitous Driving Behavior Recognition System.
Funding Agency: National Science Foundation of China (NSFC)
Amount: $42K (USD), PI

Recognizing Fine-grained Hand-Face Touching Behaviors using Minimally-obtrusive Wearables with Magnetic Sensing
Funding Agency: Joint Seed Grant Fund Shanghai Jiao Tong University and Cornell University
Co-PI with Prof. Cheng Zhang (Cornell University)

TEACHING

Teaching Areas
Programming, Mobile System Development

Courses Taught

Shanghai Jiao Tong University
CS1501: Programming Methodology
Semesters: 2021 Fall, 2022 Fall, 2023 Fall, 2024 Fall, 2025 Fall
Class capacity: 88 – 96
Notes: CS1501 is the introductory course to computer science and programming at SJTU. Attendants are first-year undergraduate students. Most attendees have limited or no programming experience. Received an A grade evaluation, 2022 Fall. Evaluated by 86 students.

CS7351: Principles and Design of Sensing Systems
Semesters: 2022 Fall, 2023 Fall, 2024 Fall, 2025 Fall

Notes: Received an A grade evaluation, 2022 Fall, evaluated by 25 students.

CS106: Programming Practice
Semesters: 2022 Summer, 2023 Summer

THESES AND DISSERTATIONS

Theses and Dissertations Supervised

MAGNETIC SENSING SYSTEM FOR MOBILEINTELLIGENT PLATFORMS, Jike Wang, 2026

EXTERNAL SERVICE – PROFESSIONAL

Technical program committee
ACM MobiCom (2022, 2023, 2024, 2025, 2026)
ACM MobiSys (2023, 2024, 2026)
VehicleSec (2022, 2023)

Local co-chair
UbiComp 2026

Registration co-chair
ACM MobiSys 2025

Student Travel Grant co-chair
ACM MobiCom 2025

Public co-chair
ACM MobiHoc (2021)

Reviewer
ACM UbiComp (2016, 2023), ICCPS (2018), IEEE TMC (2016, 2018)