

ZHE FU

Personal Website ◊ Google Scholar ◊ LinkedIn ◊ zhefu@berkeley.edu ◊ +1 (510) 612-2233 ◊ Berkeley, CA

EDUCATION & FELLOWSHIPS

Stanford University

[Stanford Energy Postdoctoral Fellowship](#) (*Awarded*) | Mentors: [Eric Darve](#) & [Marco Pavone](#) Sep. 2026 -
Granted three years of independent research funding, with flexible duration

University of California, Berkeley

Ph.D.(ABD), Transportation Engineering | Advisor: [Alexandre Bayen](#) Aug. 2020 - Expected May 2026

Minors: Optimization and Networks, Data Science

M.S., Electrical Engineering and Computer Science | Advisors: [Alexandre Bayen](#) & [Claire Tomlin](#) Aug. 2022 - May 2026

M.S., Transportation Engineering | Advisors: [Alexandre Bayen](#) & [Xiao-Yun Lu](#) Aug. 2018 - May 2020

Tongji University

B.S., Transportation Engineering | Advisor: [Xiaohong Chen](#) *Awarded National Scholarship (Top 1%)* Sep. 2014 - July 2018

Fudan University

Minor in Bachelor of Law (*10 courses, 30 units in total*) Sep. 2015 - July 2017

RESEARCH INTERESTS & AFFILIATIONS

Methodology: Physics-informed Machine Learning, Control, Optimization, Numerical Analysis, Human-Centered AI

Applications: Mixed Autonomy Systems, Distributed Parameter Systems, Automated Vehicles, Advanced Air Mobility

Affiliations: Berkeley's Artificial Intelligence Research ([BAIR](#)) Lab, Institute of Transportation Studies ([ITS](#)), Center for Information Technology and Research in the Interest of Society ([CITRIS](#)), Berkeley Deep Drive ([BDD](#)), California Partners for Advanced Transportation Technology ([California PATH](#))

SELECTED AWARDS & FUNDINGS & HONORS

Awards:

- [Rising Star in EECS](#), EECS department at MIT (70 out of 327, Top 21%) Oct. 2025
- [Eno Fellow](#), Eno Center for Transportation (Among 17 selected graduate students nationwide) June 2025
- [Athena Award for Graduate Student Leadership](#), EDGE in Tech (**sole** winner) May 2025
- [Runner-up Winner](#), 2025 Berkeley Grad Slam (Campus-wide **sole** winner) April 2025
- [NSF CPS Rising Star](#), 2025 CPS Rising Stars Workshop (30 out of 174, Top 17%) Mar. 2025
- [Rising Star in Mechanical Engineering](#), ME department at CMU (Among 30 selected attendees) Oct. 2024
- [IEEE ITSC 2024 Institutional Lead Award - CIRCLES Consortium](#) Sept. 2024
- Evergreen Award for Undergraduate Researcher Mentoring, EECS department at UC Berkeley May 2024
- Dean's Award for Inclusive Excellence, [Oski Student Leadership Award](#) (Campus-wide **sole** awardee) April 2024
- [First-place Winner](#), 2023 INFORMS Poster Competition (4 out of 200, Top 2%) Oct. 2023
- [Outstanding Graduate Student Instructor](#), UC Berkeley (Top 10%) March 2022

Scholarships:

- Bridgette Beato Leadership Legacy Graduate Scholarship, *WTS International* Feb. 2026
- [Rodney E. Slater Scholarship](#), *Eno Center for Transportation* June 2025
- Asian American Architects and Engineers Foundation ([AAa/e](#)) [Graduate Scholarship \(First Place\)](#), *AAa/e* Oct. 2024
- [ITS California and California Transportation Foundation Scholarship](#), *ITSCA & CTF* Aug. 2023
- NSF Student Travel Grant, *CPS-IoT Week U.S. NSF* March 2023
- Chinese National Scholarship (Top 1%), *Chinese Ministry of Education* Sept. 2017

Research Fundings:

- [Stanford Energy Postdoctoral Fellowship](#) (3 years independent funding), *Stanford* Jan 2026
- Berkeley's Artificial Intelligence Research Lab ([BAIR](#)) Graduate Grant (\$12k), *BAIR* May 2024
- Hearts to Humanity Eternal ([H2H8](#)) Graduate Research Grant (\$10k), *H2H8* July 2023
- Student Research Grant (\$15k), *CEE Department UC Berkeley* June 2022

PUBLICATIONS

Journals (Published & Under review) * Equal first author, † Corresponding author

- J1. “Supervised and Unsupervised Neural Network Solver for First Order Hyperbolic Nonlinear PDEs.” [\[link\]](#)
Submitted to *SIAM Journal on Numerical Analysis*.
Zhe Fu*†, Zakaria Baba*, Alexandre M. Bayen, Alexi Canesse*, Maria Laura Delle Monache, Martin Drieux*, Nathan Lichtlè*, Zihe Liu, Hossein Nick Zinat Matin*.
- J2. “Energy-Saving Control of Freeway Traffic: Field Experiments and Results.”
Submitted to *Nature*.
Sean McQuade, ..., **Zhe Fu**, ..., Jonathan Sprinkle. [All researchers in MegaVanderTest]
- J3. “Validation and Calibration of Energy Models with Real Vehicle Data from Chassis Dynamometer Experiments.” [\[link\]](#)
Submitted to *Vehicle System Dynamics*.
Joy Carpio, Sulaiman Almatrudi, Nour Khoudari, **Zhe Fu**, Kenneth Butts, Jonathan Lee, Benjamin Seibold, Alexandre M. Bayen
- J4. “Kernel-based Planning and Imitation Learning Control for Flow Smoothing in Mixed Autonomy Traffic.” [\[link\]](#)
Accepted at *Transportation Research Part C*, 2024.
Zhe Fu†, Arwa Alanqary, Abdul Rahman Kreidieh, Alexandre M. Bayen.
 - **First-place Winner**, INFORMS Annual Meeting Poster Competition (4 out of 200), 2023.
 - Honorable Mention. OR/MS Tomorrow Mini-poster Competition (PhD Category), 2023.
 - Accepted by 25th International Symposium on Transportation and Traffic Theory (*ISTTT25*), 2024.
- J5. “Hierarchical Speed Planner for Automated Vehicles: A Framework for Lagrangian Variable Speed Limit in Mixed Autonomy Traffic.” [\[link\]](#)
Accepted at *IEEE Control Systems Magazine*, 2024.
Han Wang, **Zhe Fu**, Jonathan Lee, Hossein Nick Zinat Matin, Arwa Alanqary, Daniel Urieli, Sharon Hornstein, Abdul Rahman Kreidieh, Raphael Chekroun, William Barbour, William A Richardson, Dan Work, Benedetto Piccoli, Benjamin Seibold, Jonathan Sprinkle, Alexandre M. Bayen, Maria Laura Delle Monache.
- J6. “Traffic Smoothing via Connected & Automated Vehicles: A Modular, Hierarchical Control Design Deployed in a 100-cav Flow Smoothing Experiment.” [\[link\]](#)
Accepted at *IEEE Control Systems Magazine*, 2024.
Jonathan Lee, ..., **Zhe Fu**, ..., Alexandre M. Bayen. [All researchers in CIRCLES consortium]
- J7. “Evaluating Smart Charging Strategies using Real-world Data from Optimized Plugin Electric Vehicles.” [\[link\]](#)
Accepted at *Transportation Research Part D*, 2021.
Sierra I. Spencer, **Zhe Fu**, Elpiniki Apostolaki-losifidou, Timothy E. Lipman.
- J8. “Economic and Environmental Benefits for Electricity Grids from Spatiotemporal Optimization of EV Charging.” [\[link\]](#)
Accepted at *Energies*, 2021.
Soomin Woo, **Zhe Fu**, Elpiniki Apostolaki-losifidou, Timothy E. Lipman.

Journals (In Preparation)

- J9. From Density PDEs to Velocity Dynamics: Neural Flux Learning for Traffic Forecasting.
Zhe Fu, Benedetto Piccoli, Alexandre M. Bayen.
- J10. Certified Safe Set Learning via Counterexample-Guided Pareto Control Barrier Functions.
Zhe Fu*, Xiaoyang Cao*, Jingqi Li*, Claire Tomlin, Alexandre M. Bayen.
- J11. A Transformer-GAIL Framework for Abnormal Driving Detection and Edge Case Generation.
Qing Lyu, **Zhe Fu**, Alexandre M. Bayen.

Refereed Conference Proceedings (Published & Under review) * Equal first author, † Corresponding author

- C1. “(U)NFV: Supervised and Unsupervised Neural Finite Volume Methods for Solving Hyperbolic PDEs.” [\[link\]](#)
The Fourteenth International Conference on Learning Representations (ICLR), 2026.
Zhe Fu*, Nathan Lichtlè*, Alexi Canesse*, Hossein N.Z. Matin*, Maria L.D. Monache, Alexandre M. Bayen.
- C2. “Unsupervised Anomaly Detection in Multi-Agent Trajectory Prediction via Transformer-Based Models.”
IEEE Intelligent Vehicles Symposium (IV), 2026.
Qing Lyu, **Zhe Fu**†, Alexandre M. Bayen.
- C3. “Discovering Safety-Critical Driving Scenarios via Prediction-Based Anomaly Detection.”
Transportation Research Board (TRB) Annual Meeting, 2026.
Qing Lyu, **Zhe Fu**†, Alexandre M. Bayen.

- C4. “Position and Speed Estimation Using Deep Learning-based KKL Observer in Mixed Autonomy Traffic Systems.” [\[link\]](#)
IEEE Conference on Decision and Control (CDC), 2025. **[Oral presentation]**
 Yasmine Marani, **Zhe Fu**, Ibrahima N’Doye, Eric Feron, Taous-Meriem Laleg-Kirati, Alexandre M. Bayen.
- C5. “Neural Network-Based Solvers for Hyperbolic Conservation Laws: Supervised vs. Unsupervised Learning, and Applications to Traffic Modeling” [\[link\]](#)
2nd International Conference on Neuro-symbolic Systems (NeuS), 2025. **[Oral presentation]**
Zhe Fu*, Alexi Canesse*, Nathan Lichtlè*, Hossein N.Z. Matin*, Zihé Liu, Maria L.D. Monache, Alexandre M. Bayen.
- C6. “Pareto Control Barrier Function for Inner Safe Set Maximization Under Input Constraints.” [\[link\]](#)
American Control Conference (ACC), 2025. **[Oral presentation]**
 Xiaoyang Cao, **Zhe Fu†**, Alexandre M. Bayen.
- C7. “Towards Understanding Worldwide Cross-cultural Differences in Implicit Driving Cues: Review, Comparative Analysis, and Research Roadmap.” [\[link\]](#)
International conference on intelligent transportation systems (ITSC), 2024. **[Oral presentation]**
 Yongqi Dong, Chang Liu, Yiyun Wang, and **Zhe Fu**.
- C8. “Kernel-based Planning and Imitation Learning Control for Flow Smoothing in Mixed Autonomy Traffic.” [\[link\]](#)
25th International Symposium on Transportation and Traffic Theory (ISTTT25), 2024.
Zhe Fu†, Arwa Alanqary, Abdul Rahman Kreidieh, Alexandre M. Bayen.
- C9. “Hierarchical Reinforcement Learning for Scalable Lagrangian Variable Speed Limit in Mixed Autonomy Traffic.”
Transportation Research Board 103th Annual Meeting, 2024.
 Han Wang, Jonathan W. Lee, **Zhe Fu**, Sharon Hornstein, Daniel Urieli, Maria Laura Delle Monache.
- C10. “Cooperative Driving for Speed Harmonization in Mixed-Traffic Environments.” [\[link\]](#)
IEEE Intelligent Vehicles Symposium (IV), 2023.
Zhe Fu†, Abdul Rahman Kreidieh, Han Wang, Jonathan W. Lee, Maria Laura Delle Monache, Alexandre M. Bayen.
- C11. “A Feedback Control Strategy for Traffic Flow Harmonization in Mixed-traffic Environments.”
Transportation Research Board 102th Annual Meeting, 2023.
Zhe Fu†, Abdul Rahman Kreidieh, Alexandre M. Bayen.
- C12. “Learning Energy-efficient Driving Behaviors by Imitating Experts.” [\[link\]](#)
International conference on intelligent transportation systems (ITSC), 2022. **[Oral presentation]**
 Abdul Rahman Kreidieh, **Zhe Fu**, Alexandre M. Bayen.

Refereed Conference Proceeding (In Preparation)

- C12. Neural Finite Volume Learning and Control for Mixed Autonomy Traffic.
Zhe Fu, Xuanmian He, Alexandre M. Bayen.
- C13. A Systematic Benchmark of Physics-Constrained Neural Models for Hyperbolic PDE Learning in Traffic Systems.
Zhe Fu, Zihé Liu, Alexandre M. Bayen.

Other Articles

- O1. “Massive CAV Experiment in Nashville Pits Machine Learning against Traffic Jams.” [\[link\]](#)
OR/MS Today, 2023.
Zhe Fu, Kara Manke, Alexandre M. Bayen.
- O2. “Streamlining CAV Test Data Collection and Evaluation in the Hardware-in-the-Loop Environment.” [\[link\]](#)
UC-ITS-2020-23, 2020.
Zhe Fu, Hao Liu, Xiao-Yun Lu.

REFeree ACTIVITIES

Journal Article Reviewer

- IEEE Open Journal of Intelligent Transportation Systems
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Vehicular Technology
- Nature Partner Journals (npj) Sustainable Mobility and Transport
- Scientific Reports
- Transportation Research Record
- Transportation Research Part C: Emerging Technologies
- Transportation Research Part D: Transport and Environment
- Transportation Science

Conference Paper Reviewer

- 25th International Symposium on Transportation and Traffic Theory (ISTTT25)

- ACM/IEEE International Conference on Cyber-Physical Systems (ICCPS)
- IEEE American Control Conference (ACC)
- IEEE Conference on Decision and Control (CDC)
- IEEE European Control Conference (ECC)
- IEEE Intelligent Vehicles Symposium (IV)
- Transportation Research Board (TRB) Annual Meeting
- World Transport Convention

Proposal Reviewer

- ITS Berkeley proposals. Transportation Equity Review Committee for ITS Berkeley STRP.

SELECTED RESEARCH PROJECTS

Physics-Informed Machine Learning for Hyperbolic PDEs

Sep. 2023 - Present

Berkeley Artificial Intelligence Research (BAIR)

- Developed a physics-informed deep learning framework for solving hyperbolic conservation laws (e.g., LWR traffic model), combining neural flux approximation with finite volume structures.
- Designed the model to operate on the same stencils as traditional finite volume (FV) methods, matching the computational cost of first-order schemes while enabling easy extension to higher-order accuracy in both space and time.
- Framework supports both supervised and unsupervised training paradigms:
 - Supervised learning uses entropy solutions as ground truth and achieves higher accuracy.
 - Unsupervised learning leverages a weak formulation of the PDE to learn from unlabeled initial conditions.
- Captured entropy solutions reliably under both supervised and unsupervised training modes.
- Outperformed all known first-order FV schemes (e.g., Godunov, Engquist-Osher) across multiple flux models.
- Demonstrated superior accuracy over numerical baselines on real-world traffic datasets, including [PeMS](#), [INRIX](#), [drone-captured highway videos](#), and the [I-24 MOTION dataset](#).
- Established a generalizable and interpretable framework for learning PDE-governed dynamics, with scalability to broader scientific and engineering systems.

Congestion Impacts Reduction via CAV-in-the-Loop Lagrangian Energy Smoothing

Sep. 2019 - Present

[CIRCLES: World's Largest Mixed Traffic Field Test \(100 AVs\)](#)

Berkeley Artificial Intelligence Research (BAIR)

- Constructed a feedback control strategy on Automated Vehicles (AVs) to smooth stop-and-go waves, achieving on average over 15% energy savings within simulations of congested events with only 4% AV penetration.
- Utilized DAgger, an online imitation learning procedure to capture traffic flow harmonization behaviors using only decentralized observations.
 - A Multi-Layer Perceptron (MLP) is used with hidden layers (32, 32, 32), and a ReLU nonlinearity.
 - Simulation results show the success of the approach in matching the expert performance without access to global states.
- Designed the project's core "Speed Planner", a higher-level control module that provides real-time, energy-efficient speed suggestions to AVs to execute.
- Conducted large operational tests with such control strategies deployed on 100 AVs on I-24 highway. Analyzed field data showing 10-20% fuel savings near controlled AVs, despite AVs representing only 1-2% of total traffic.
- Collaborated with many industry partners including [Toyota](#), [Nissan](#) and [General Motors](#).

Streamlining CAV Test Data Collection and Evaluation in the HIL Environment

Sep. 2019 - May 2020

California PATH

- Built a prototype Hardware-in-the-Loop (HIL) tool in C++ to connect Aimsun and MySQL database to facilitate data collection, storage and evaluation capabilities for easier data analysis in HIL tests.
- The tool has been applied in the AVs field experiments to prove tested algorithms' efficiency.

Evaluating Plug-In EV Using Optimization Framework and Real-world Study Data

May 2019 - Sep. 2019

[BMW Charge Forward Program](#)

Transportation Sustainability Research Center(TSRC)

- Established two linear and convex optimization models: Fixed-location and Inter-location models to schedule the charging time and location of Electric Vehicles (EVs).
- Evaluated the optimization models in Python with three different objective functions in terms of energy load, emission, and renewable-energy usage on the user data collected from [BMW Charge Forward Program](#).

INDUSTRY & INTERNSHIP EXPERIENCE

- Research Intern, Honda Research Institute**, Ann Arbor, MI, USA May 2023 - Aug. 2023
Worked on multi-agent robots collision avoidance in social navigation
- Research Intern, Tsinghua Berkeley Shenzhen Institute**, Shenzhen, China July 2018 - Aug. 2018
Worked with Prof. Yi Zhang on Global Competence and Leadership Survey

TEACHING & MENTORING EXPERIENCE

- Graduate Student Instructor**, UC Berkeley Aug. 2021 - Dec. 2021
CE262 Analysis of Transportation Data (Graduate Level)
- Enrollment: 57
 - PhD/Master **core** course for SYS and TRANS students in CEE department
 - Students’ degree programs include Undergraduate, MEng, MS, MBA and PhD
 - Students’ departments include CEE, CED and Haas School of Business.
 - Ratings: 4.67/5.00 (department average: 4.41, response ratio: 77.19% | 44/57)
 - Helpfulness 4.84/5.00 (avg: 4.57); Communication 4.77/5.00 (avg: 4.48)
 - Inclusive environment 4.79/5.00 (avg: 4.49); Accessibility 4.86/5.00 (avg: 4.67)
 - Awarded *Outstanding Graduate Student Instructor* (Top 10%)
 - Invited 3 times (2023/2024/2025) to serve as one of three panelists at International GSI conference held for around 800 first-time GSIs at UC Berkeley.
 - Invited to serve as the panelist for the pedagogy class for new GSIs (CE375)
- Lecturer**, UC Berkeley July 2025
BAIR-NCKU Summer AI Workshop (Graduate Level)
- Enrollment: 6 (Masters Students from NCKU)
 - Served as the main student coordinator for the week-long module on “AI & Transportation”.
 - Instructed the cohort on “Learning and controls in Mixed Autonomy Traffic Systems” and “Neural Finite Volume Methods”.
- Lecturer**, UC Berkeley May 2023
Girl Scout Engineering Day
- Enrollment: 60 (Elementary/Middle School Students from Girl Scout)
 - Led a hands-on programming workshop for over 60 elementary and middle school girls, teaching basic coding principles.
 - Mentored and inspired a diverse group of young girls to build confidence and pursue future careers in STEM through an engaging introduction to university-level engineering.
- Volunteer Teacher**, Lianhua Village School Jan. 2016 - Feb. 2016
Basic Health and Hygiene
- Enrollment: 15 (Elementary School Students in “Hui” minority)
 - Volunteered to teach elementary school students at a religious school located in Lianhua village, a less-developed corner of China’s mountainous west.
 - Shocked by the poor health resources the left-behind children have, I designed the “Basic Health and Hygiene” course on my own, including creating the syllabus, preparing the materials and delivering 10 one-hour lectures.
- Guest Lecturer**, UCLA Nov. 2025
CEE C181/C281 Traffic Engineering Systems: Operations and Control (Undergrad & Graduate Level)
- Enrollment: 30 (Undergrads & Graduates)
 - Instructed on the theory and application of modeling and control in mixed-autonomy traffic systems.
- Mentor**, UC Berkeley Spring 2024
Undergraduate Students
CEE Scholars research mentorship program (for undergrads from PREP and T-PREP programs)
Sami Seyedjafar Kashi, CEE, Spring 2024.
- BAIR undergraduate mentoring program Oct. 2023 - Present
Atharva Gupta, EECS, 2023 - 2024.
Nicole Han, EECS & DS, 2023 - present.
- Mobile Sensing Lab undergraduate mentoring Oct. 2021 - Present

Jordan Kam, *Aerospace Engineering*, 2025 - present.

Qing Lyu, *exchange student from Tongji U*, 2025 - present. Currently M.S. student at UC Berkeley CEE.

Zakaria Baba, *research intern from École Polytechnique*, 2025. Currently Ph.D. student at Caltech CMS.

Martin Drieux, *research intern from École Polytechnique*, 2025. Currently M.S. student at Carnegie Mellon University MSML.

Alexi Canesse, *research intern from École Normale Supérieure de Lyon*, 2025. Currently Ph.D. student at École Polytechnique.

Xiaoyang Cao, *exchange student from Tsinghua U*, 2024 - present. Currently Master student at MIT TPP.

Jiaying Yang, *exchange student from Tongji U*, 2023 - 2024. Currently M.S. student at UC Berkeley CEE.

Ashwin Dara, *EECS*, 2023 - 2024. Currently software engineer at Doordash.

Eric Cheng, *EECS*, 2021 - 2022. Currently software engineer at Unity.

Graduate Students

EECS MEng capstone project mentor

Sep. 2023 - May 2024

Alvin Bao, *EECS*, 2023 - 2024. Currently software engineer at Netflix.

Tony Luo, *EECS*, 2023 - 2024. Currently software engineer at Doordash.

Abirami Sabbani, *EECS*, 2023 - 2024. Currently software engineer at Walmart Global Tech.

Cathy Wang, *EECS*, 2023 - 2024. Currently software engineer at AWS.

TRANSOC graduate student mentoring program

Oct. 2020 - Present

Xuanmian He, *CEE*, 2025 - present. Currently M.S. student at UC Berkeley.

Zihe Liu, *CEE*, 2024 - present. Currently Ph.D. student at UC Berkeley.

Juanwu Lu, *CEE*, 2021 - 2022. Currently Ph.D. student at Purdue University.

Jianxuan Yin, *CEE*, 2020 - 2021. Currently construction technology engineer at XL Construction.

INVITED TALK & PRESENTATIONS

- Lightning talk, *COTA TRB Winter Symposium*, Washington DC, Jan. 2026
- Poster presentation, *TRB Annual Meeting 2026*, Washington DC, Jan. 2026
- Poster presentation, *NeurIPS 2025*, San Diego, CA, Dec. 2025
- Spotlight talk, *BARS 2025*, Stanford, CA, Nov. 2025
- Panelist, *Agents, Memory, and Simulation*, Google & SESE, Berkeley, CA, Nov. 2025 ([link](#))
- Guest lecturer & Seminar talk, *UCLA Mobility Lab*, Los Angeles, CA, Nov. 2025
- Poster presentation, *MIT EECS Rising Stars Workshop*, MIT, Boston, MA, Oct. 2025 ([link](#))
- Job Market Showcase talk, *INFORMS Annual Meeting 2025*, Atlanta, GA, Oct. 2025 ([link](#))
- Seminar talk, *USC AAI Seminar*, USC, Los Angeles, CA, Oct. 2025
- Seminar talk, *eMERGE Seminar*, UC Berkeley, Berkeley, CA, Sept. 2025 ([link](#))
- Oral presentation, *ACC 2025*, Denver, CO, July 2025
- Invited poster presentation, *ACC 2025 Workshop W05*, Denver, CO, July 2025 ([link](#))
- Oral presentation, *NeuS 2025*, Philadelphia, PA, May 2025
- Award remark, *EDGE in Tech Athena Award Ceremony*, Berkeley, CA, May 2025
“Stay Safe, Stay Humble – But Speak Up” , ([link](#))
- Invited talk, *Mobility-X Lab*, Rice U, Houston, TX, May 2025
- Invited talk, *JTL Urban Mobility Lab*, MIT, Boston, MA, April 2025 ([link](#))
- Seminar talk, *Harvard EE Seminar*, Harvard, Boston, MA, April 2025 ([link](#))
- Invited talk, *Zardini Lab*, MIT, Boston, MA, April 2025
- Grad Slam Competition, *Berkeley Grad Slam*, UC Berkeley, Berkeley, CA, April 2025
“Stop-and-Go No More: How a Few Smart Cars Can Fix Traffic Jams” ([link](#)), Runner-up Winner Campus-wide
- Poster talk, *NSF CPS Rising Stars Workshop 2025*, Nashville, TN, March 2025
- Session talk, *POMSHK 2025*, Hong Kong, China, Jan. 2025
- Session talk, *HKSTS 2024*, Hong Kong, China, Dec. 2024
- Spotlight talk, *BARS 2024*, UC Berkeley, Oct. 2024
- Poster talk, *ISTTT25*, Ann Arbor, MI, July 2024
- Invited talk, *INFORMS Annual Meeting 2023*, Phoenix, AZ, Oct. 2023
- Poster competition, *INFORMS Annual Meeting 2023*, Phoenix, AZ, Oct. 2023
“Cooperative Connected Automated Vehicle Control: Strategies For Speed Harmonization In Mixed Autonomy Traffic.”,
First Place Winner of Multidisciplinary Application Track

- Interactive poster presentation, *IEEE IV 2023, Anchorage, AK, June 2023*
- Invited talk, *IEEE IV Workshop, Anchorage, AK, June 2023*
- Poster presentation, *Berkeley Deep Drive Symposium, March 2023*
- Poster presentation, *TRB Annual Meeting 2023, Washington DC, Jan. 2023*
- Spotlight speak & Poster presentation, *BARS 2022, UC Berkeley, Nov. 2022*
- Poster presentation, *ITS 75 Celebration, UC Berkeley, Oct. 2022*

MEDIA & PRESS

- **CIRCLES work featured in Press**, Fortune (12/22, 11/22); AP News (11/22); Popular Science (11/22); PR Newswire (11/22); TechXplore (11/22); UC Berkeley News (11/22); Vanderbilt University News (11/22); Fox Channel 2 KTVU (11/22); Fox Channel 17 WZTV Nashville (11/22); ABC 7 News (11/22); WKRN News Channel 2 (11/22, 11/22); WABI News Channel 5 (11/22); WTVF News Channel 5 (11/22); WSMV Channel 4 (11/22); Main Street Media of Tennessee (11/22); Motor (11/22)
- **2025 MIT EECS Rising Star**, [Website Announcement](#)
- **2025 ENO Fellow**, Eno Center for Transportation (6/25, 5/25); UC Berkeley CEE (6/25); ITS Berkeley (4/25)
- **Athena Award for Graduate Student Leadership**, [Website Announcement](#); CITRIS (5/25); ITS Berkeley (5/25)
- **2nd Place Winner of 2025 Berkeley Grad Slam**, UC Berkeley Graduate Division (4/25); ITS Berkeley (4/25); UC Berkeley CEE (6/25)
- **NSF CPS Rising Star**, [Website Announcement](#)
- **CMU ME Rising Star**, UC Berkeley CEE (10/24); ITS Berkeley (10/24)
- **AAa/e Scholarship**, UC Berkeley CEE (10/24); ITS Berkeley (10/24)
- **IEEE ITSC 2024 Institutional Lead Award**, UC Berkeley CEE (10/24); UC Berkeley EECS (8/24); ITS Berkeley (9/24)
- **Dean's Award for Inclusive Excellence**(Oski Student Leadership Award), UC Berkeley Division of Student Affairs (4/24); UC Berkeley CEE (4/24)
- **Honorable Mention of 2023 OR/MS Tomorrow Mini-Poster Competition**, [Website Announcement](#)
- **1st Place Winner of 2023 INFORMS Best Poster Competition**, UC Berkeley CEE (2/24); ITS Berkeley (1/24)
- **ITSCA & CTF Scholarship**, UC Berkeley CEE (8/23); ITS Berkeley (8/23)
- **H2H8 Research Grant**, ITS Berkeley (8/23)
- **Outstanding GSI**, [Website Announcement](#); UC Berkeley CEE (4/22); ITS Berkeley (5/22)

LEADERSHIP & SERVICE

Leadership & Outreach

- Junior Researcher Engagement Officer, [REproducible Research In Transportation Engineering \(RERITE\) Working Group](#) July 2025 - Present
- Student Lead Coordinator, BAIR-NCKU Summer AI Workshop July 2025
- Initiator, [IEEE Technical Committee: Automated Mobility in Mixed Traffic](#) Mar. 2025 - Present
- Organizer, ITSC 2024 & 2025 Workshop "[Automated Mobility in Emerging Mixed Traffic](#)", IEEE ITSS 2024 & 2025
- Sole Graduate Representative in CEE DEIB Committee, UC Berkeley Aug. 2023 - July 2024
- **Founder** of Representation of Asian and Pacific Islander in the Department of Civil and Environmental Engineering ([RAPID-CEE](#)), UC Berkeley
- President of [RAPID-CEE](#), UC Berkeley May 2023 - Aug. 2024
- Graduate Assembly Delegate, UC Berkeley Aug. 2022 - Aug. 2024
- Funding Committee Member of Graduate Assembly, UC Berkeley Aug. 2022 - Aug. 2024
- Executive Board Member of Women in Computer Science Engineering ([WiCSE](#)), UC Berkeley Aug. 2022 - Aug. 2023
- Vice president of the Student Union, Transportation Engineering School, Tongji University July 2016 - July 2017
- Organizer, the **first** Asian and Pacific Islander (API) Awareness event in CEE department. Feb. 2023
- Organizer, the **first** API Social event in CEE department. May 2023
- Organizer, Berkeley-Stanford Meetup for Women in EECS. April 2023
- Volunteer, Girl Scouts Engineering Day. May 2023

Professional & Campuswide Service, UC Berkeley CEE & EECS

- Panelist, Path to the Professoriate ([P2P](#)) Program, UC Berkeley Nov. 2025

- PhD Coordinator, [ITS Berkeley Seminar Series](#) Sep. 2024 - May 2025
- Panelist, International Graduate Student Instructor (GSI) conference, UC Berkeley Aug. 2023 & 2024 & 2025
- Core member, CEE Faculty Search Student Committee 2023
- Member, EE Faculty Search Student Committee 2023
- Member, CS Faculty Search Student Committee 2023
- Volunteer, admitted students visit days in EECS and CEE. 2020 - Present
- Volunteer, TU Delft Department of Transport and Planning Visit. April 2023
- Panelist, pedagogy class for new GSIs in CEE (CE375) April 2022

Professional Affiliations

- Student Member, #4617381, Association for Computing Machinery (ACM)
- Student Member, #12374061, American Society of Civil Engineers (ASCE)
- Student Member, #108, Chinese Overseas Transportation Association (COTA)
- Member, Graduate Women of Engineering (GWE)
- Student Member, #99088722, Institute of Electrical and Electronics Engineers (IEEE)
- Student Member, #1938374, Institute for Operations Research and the Management Sciences (INFORMS)
- Student Member, #46375, Production and Operations Management Society (POMS)
- Student Member, #021030965, Society for Industrial and Applied Mathematics (SIAM)
- Member, Society of Women Engineers (SWE)
- Student Member, Women's Transportation Seminar (WTS)

OTHER AWARDS & HONORS

Other Awards:

- Honorable Mention, 2023 OR/MS Tomorrow Mini-poster Competition (PhD Category) Nov. 2023
- **Best Design Presentation**, 2018 BMW Next Mobility Youth Camp Aug. 2018
- Second Prize, 12th National Transportation Technology Competition (Team Leader, Rank: 9/302) May 2017
- **First Prize**, Transportation Technology Competition at Tongji University (Team Leader, Rank: 2/59) April 2017
- Meritorious Winner, US Mathematical Contest in Modeling (Team Leader, Top 7%) April 2017
- Second Prize, National English Competition for College Students May 2017
- Second Prize, China Mathematical Olympiad (Provincial Level) Oct. 2013
- Second Prize, China Physics Olympiad (Provincial Level) Oct. 2013

Other Scholarships:

- Professional Development Award, *UC Berkeley* Aug. 2024 & 2025
- Department Award - EECS, *UC Berkeley* 2023
- Block Grant Award - CEE, *UC Berkeley* 2019 - 2023
- Summer Department Award - ITS, *UC Berkeley* May 2021
- Runner-up "Tingya" Outstanding Student Scholarship Competition, *Tongji University* May 2017

REFERENCES

- Dr. Alexandre M. Bayen**, Liao Cho Professor (Thesis Advisor) **Email: bayen@berkeley.edu**
Associate Provost - Berkeley Space Center
Director - CITRIS and the Banatao Institute
 Department of Electrical Engineering and Computer Sciences
 Department of Civil and Environmental Engineering
 University of California, Berkeley
- Dr. Joan Walker**, T.Y. and Margaret Lin Professor **Email: joanwalker@berkeley.edu**
Department Chair, Civil and Environmental Engineering
 Department of Civil and Environmental Engineering
 University of California, Berkeley
- Dr. Benedetto Piccoli**, Joseph and Loretta Lopez Chair Professor **Email: piccoli@camden.rutgers.edu**
University Professor and Chair
 Department of Mathematical Sciences
 Center for Computational and Integrative Biology
 Rutgers University - Camden

Dr. Jonathan Sprinkle, Professor
Department Chair, Computer Science
Department of Computer Science
Department of Civil and Environmental Engineering
Department of Electrical and Computer Engineering
Vanderbilt University

Email: jonathan.sprinkle@vanderbilt.edu

Dr. Maria Laura Delle Monache, Assistant Professor
Department of Civil and Environmental Engineering
University of California, Berkeley

Email: mldellemonache@berkeley.edu

Dr. Linda von Hoene (Teaching)
Assistant Dean for Professional Development
Director - GSI Teaching and Resource Center
University of California, Berkeley

Email: lvh@berkeley.edu

Last updated in Feb 2026