ZHE FU

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EDUCATION

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

Stanford University
Visiting Student at Autonomous Systems Lab (ASL) | Advisor: Marco Pavone   April. 2024 - Sept. 2024

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, Deep Learning

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

Programming Languages & Tools: Python, Java, MATLAB, C++; PyTorch, ROS

Affiliations: Berkeley's Artificial Intelligence Research (BAIR) Lab, the 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:
- **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)   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)   Oct. 2023
- Outstanding Graduate Student Instructor, UC Berkeley (Top 10%)   March 2022

Scholarships:
- 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:
- 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

* Equal first author, † Corresponding author

1. "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.

2. "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.

3. "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.

4. "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-Iosifidou, Timothy E. Lipman.

5. "Economic and Environmental Benefits for Electricity Grids from Spatiotemporal Optimization of EV Charging." [link]
Accepted at ***Energies***, 2021.
Soomin Woo, **Zhe Fu**, Elpiniki Apostolaki-Iosifidou, Timothy E. Lipman.

Under review

1. "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

2. Supervised and Unsupervised Neural Network Solver for First Order Hyperbolic Nonlinear PDEs
*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*.

Refereed Conference Proceedings

* Equal first author, † Corresponding author

1. "Position and Speed Estimation Using Deep Learning-based KKL Observer in Mixed Autonomy Traffic Systems."
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.

2. "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*, Zihe Liu, Maria L.D. Monache, Alexandre M. Bayen.

3. "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.

4. "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**.

5. "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.

6. "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.

7. "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.

8. "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.

9. "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.

Under review

1. "(U)NFV: Supervised and Unsupervised Neural Finite Volume Methods for Solving Hyperbolic PDEs."
   Submitted to **The Annual Conference on Neural Information Processing Systems (NeurIPS)**, 2025.
   Zhe Fu*, Nathan Lichtlè*, Alexi Canesse*, Hossein N.Z. Matin*, Maria L.D. Monache, Alexandre M. Bayen.

2. "Unsupervised Anomaly Detection in Multi-agent Trajectory Prediction via Transformer-based Models."
   Submitted to **Transportation Research Board (TRB) Annual Meeting**, 2026.
   Qing Lyu, **Zhe Fu†**, Alexandre M. Bayen.

Other Articles

1. "Massive CAV Experiment in Nashville Pits Machine Learning against Traffic Jams." [link]
   OR/MS Today, 2023.
   Zhe Fu, Kara Manke, Alexandre M. Bayen.

2. "Streamlining Connected Automated Vehicle 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.

Working Papers

1. Physics-Informed Velocity-based PDE Learning for Robust Travel Time Forecasting from High-Variability GPS Signals (*In preparation.*)
2. A Systematic Benchmark of Physics-Constrained Neural Models for Hyperbolic PDE Learning in Traffic Systems (*In preparation.*)
3. Kernel-Guided Model Predictive Control with Control Barrier Functions for Mixed Autonomy Traffic. (*In preparation.*)
4. A Transformer-GAIL Framework for Abnormal Driving Detection and Edge Case Generation. (*In preparation.*)

REFEREE ACTIVITIES

Journal Article Reviewer
- IEEE Open Journal of Intelligent Transportation Systems
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Vehicular Technology
- Transportation Science
- Transportation Research Part C: Emerging Technologies

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 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 Conservation Laws 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 *Berkeley Artificial Intelligence Research (BAIR)*

- Constructed a feedback control strategy on Autonomous Vehicles (AVs) to smooth traffic flow, achieved 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.
- Conducted large operational tests with such control strategies deployed on 100 AVs on I-24 highway in November 2022.
- 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
Work 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
CE262 Analysis of Transportation Data (Graduate Level) Aug. 2021 - Dec. 2021

- 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 to serve as one of three panelists at International GSI conference held for around 300 fist-time GSIs at UC Berkeley.
- Invited to serve as the panelist for the pedagogy class for new GSIs (CE375)

Volunteer Teacher, Lianhua Village School
Basic Health and Hygiene   Jan. 2016 - Feb. 2016
- 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.

Mentor, UC Berkeley
Undergraduate Students

CEE Scholars research mentorship program (for undergrads from PREP and T-PREP programs)   March 2024 - Present
Sami Seyedjafar Kashi, CEE, 2024 - 2025.

BAIR undergraduate mentoring program   Oct. 2023 - Present
Atharva Gupta, EECS, 2023 - 2024.
Nicole Han, EECS, 2023 - present.

Mobile Sensing Lab undergraduate mentoring   Oct. 2021 - Present
Qing Lyu, exchange student from Tongji U, 2025 - present. Currently M.S. student at UC Berkeley CEE.
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 captone 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

- Lecturer, **BAIR-NCKU Summer AI Workshop**, *Berkeley, CA, July 2025*
- Oral presentation, **ACC 2025**, *Denver, CO, July 2025*
  "Pareto Control Barrier Function for Inner Safe Set Maximization Under Input Constraints",
- Invited poster presentation, **ACC 2025 Workshop W05**, *Denver, CO, July 2025*
  "Kernel-based Planning and Imitation Learning Control for Flow Smoothing in Mixed Autonomy Traffic" (link),
- Oral presentation, **NeuS 2025**, *Philadelphia, PA, May 2025*
  "Neural Network-Based Solvers for Hyperbolic Conservation Laws: Supervised vs. Unsupervised Learning, and Applications to Traffic Modeling",
- 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*
  "Learning to Guide Traffic: Physics-Informed Prediction and Control in the 100-AV MegaVanderTest",
- Invited talk, **JTL Urban Mobility Lab**, *MIT, Boston, MA, April 2025*
  "Physics-Informed Machine Learning for Enhanced Traffic Control: From MegaVanderTest to Neural Finite Volume Method" (link),

- Seminar talk, **Harvard EE Seminar**, *Harvard, Boston, MA, April 2025*
  "Physics-Informed Learning and Control for Intelligent Transportation: Theory, Algorithms, and Experiments" (link),

- Invited talk, **Zardini Lab**, *MIT, Boston, MA, April 2025*
  "Physics-Informed Learning and Control for Intelligent Transportation: Theory, Algorithms, and Experiments",

- 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*
  "Physics-Informed Learning and Control for Intelligent Transportation: Theory, Algorithms, and Experiments",

- Session talk, **POMSHK 2025**, *Hong Kong, China, Jan. 2025*
  "Advancing Deep Learning Techniques for Hyperbolic Conservation Laws in Traffic Flow Modeling",

- Session talk, **HKSTS 2024**, *Hong Kong, China, Dec. 2024*
  "Towards Understanding Worldwide Cross-cultural Differences in Implicit Driving Cues: Review, Comparative Analysis, and Research Roadmap",

- Spotlight talk, **BARS 2024**, *UC Berkeley, Oct. 2024*
  "Pareto Control Barrier Function for Inner Safe Set Maximization Under Input Constraints",

- Poster talk, **ISTTT25**, *Ann Arbor, MI, July 2024*
  "Kernel-based Planning and Imitation Learning Control for Flow Smoothing in Mixed Autonomy Traffic",

- Invited talk, **INFORMS Annual Meeting 2023**, *Phoenix, AZ, Oct. 2023*
  "Leveraging Imitation Learning for Traffic Flow Harmonization in Mixed Autonomy Environment",

- 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*
  "Cooperative Driving for Speed Harmonization in Mixed-Traffic Environments",

- Invited talk, **IEEE IV Workshop**, *Anchorage, AK, June 2023*
  "The MegaVanderTest: Massive CAV Experiment in Nashville Pits Machine Learning against Traffic Jam",

- Poster presentation, **Berkeley Deep Drive Symposium**, *March 2023*
  "Cooperative Driving with Expert Relabeling: Efficient Learning with Limited Data",

- Poster presentation, **TRB Annual Meeting 2023**, *Washington DC, Jan. 2023*
  "A Feedback Control Strategy for Traffic Flow Harmonization in Mixed-Traffic Environments",

- Spotlight speak & Poster presentation, **BARS 2022**, *UC Berkeley, Nov. 2022*
  "Utilizing Automated Vehicles to Smooth Traffic Flow",

- Poster presentation, **ITS 75 Celebration**, *UC Berkeley, Oct. 2022*
  "A Feedback Control Strategy for Traffic Flow Harmonization in Mixed-Traffic Environments"

LEADERSHIP & SERVICE

Leadership & Outreach

- Sole Graduate Representative in CEE DEIB Committee, UC Berkeley — Aug. 2023 - July 2024
- **Founder** of Representation of Asian and Pacific Islander in the Departement 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, IEEE & UC Berkeley CEE & EECS

- 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
- PhD Coordinator, ITS Berkeley Seminar Series — Sep. 2024 - May 2025
- Organizer, ITSC 2024 Workshop "Automated Mobility in Emerging Mixed Traffic", IEEE ITSS — 2024
- 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 Cumputing 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)
- 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
- 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
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Department of Civil and Environmental Engineering
University of California, Berkeley

Dr. Jonathan Sprinkle, Professor
Email: jonathan.sprinkle@vanderbilt.edu
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Department of Civil and Environmental Engineering
Department of Electrical and Computer Engineering
Vanderbilt University

Dr. Benedetto Piccoli, Joseph and Loretta Lopez Chair Professor
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Department of Mathematical Sciences
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Rutgers University - Camden

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

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

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