

## EDUCATION

<b>Ph.D. in Electrical Engineering, Control</b>	08/2021
University of Maryland, College Park, MD	Advisor: Dr. Derek Paley
<b>M.S. in Electrical Engineering, Control</b>	08/2018
University of Maryland, College Park, MD	Advisor: Dr. Nuno Martins
<b>B.Eng. in Control Science and Engineering, Automation</b>	07/2014
Harbin Institute of Technology, Harbin, China	Advisor: Dr. Yong'an Zhang

## ACADEMIC POSITIONS

<b>Postdoctoral Research Associate</b>	08/2021—present
University of Illinois Urbana-Champaign, Urbana, IL	Advisor: Dr. Naira Hovakimyan

## RESEARCH INTERESTS

Aerial robotics; safe learning for control; aerial manipulation; advanced air mobility; adaptive control; optimization

## SELECTED PUBLICATIONS

*Under review and articles (\* equal contributions, † mentored students)*

- UR1. H. Lee<sup>†</sup>, **S. Cheng**, Z. Wu, N. Hovakimyan, “Geometric Tracking Control of Omnidirectional Multirotors in the Presence of Rotor Dynamics,” under review by IEEE Robotics and Automation Letters, 2024. (preprint: <https://arxiv.org/abs/2209.10024>)
- UR2. Q. Chen<sup>†</sup>, J. Li, **S. Cheng**, N. Hovakimyan, Q. Nguyen, “Autotuning Bipedal Locomotion MPC with GRFM-Net for Efficient Sim-to-Real Transfer,” under review by 2025 IEEE International Conference on Robotics and Automation, 2024. (preprint: <https://arxiv.org/abs/2409.15710>)
- UR3. H. Pham<sup>†\*</sup>, **S. Cheng\*, Z. Han, C. Yang, Q. Luu, N. Hovakimyan, V. Ho, “Collision-resilient Quadrotor with Tombo Propellers and L1Quad,” under review by 2025 IEEE International Conference on Robotics and Automation, 2024.**
- UR4. S. M. Rajkumar, **S. Cheng**, N. Hovakimyan, D. Goswami, “Linear Model Predictive Control for Quadrotors with an Analytically Derived Koopman Model,” under review by IEEE Control Systems Letters, 2024. (preprint: <https://arxiv.org/abs/2409.12374>)

*Journal articles*

- J1. **S. Cheng**, M. Kim\*, L. Song\*, C. Yang, Y. Jin, S. Wang, N. Hovakimyan, “DiffTune: Auto-Tuning through Auto-Differentiation,” IEEE Transactions on Robotics, vol. 40, pp. 4085-4101, July 2024.
- J2. Z. Wu<sup>\*†</sup>, **S. Cheng\*, P. Zhao, A. Gahlawat, K. A. Ackerman, A. Lakshmanan, C. Yang, J. Wu, N. Hovakimyan, “L1Quad: L1 Adaptive Augmentation of Geometric Control for Agile Quadrotors with Performance Guarantees,” accepted by publication by IEEE Transactions on Control Systems Technology, 2024.**
- J3. R. Tao<sup>\*†</sup>, **S. Cheng\*, X. Wang, S. Wang, N. Hovakimyan, “DiffTune-MPC: Closed-Loop Learning for Model Predictive Control,” IEEE Robotics and Automation Letters, pp. 7294-7301, July 2024.**
- J4. Q. Chen<sup>†</sup>, **S. Cheng**, N. Hovakimyan, “Simultaneous Spatial and Temporal Assignment for Fast UAV Trajectory Optimization using Bilevel Optimization,” IEEE Robotics and Automation Letters, vol. 8, no. 6, pp. 3860-3867, June 2023.
- J5. **S. Cheng** and D. A. Paley, “Cooperative estimation and control of a diffusion-based spatiotemporal process using mobile sensors and actuators,” Autonomous Robot, May 2023.
- J6. **S. Cheng** and D. A. Paley, “Optimal guidance and estimation of a 2D diffusion-advection process by a team of mobile sensors,” Automatica, vol. 137, p. 110112, March 2022.

- J7. **S. Cheng** and D. A. Paley, "Optimal control of a 2D diffusion-advection process with a team of mobile actuators under jointly optimal guidance," *Automatica*, vol. 133, p. 109866, August 2021.
- J8. **S. Cheng** and N. C. Martins, "An optimality gap test for a semidefinite relaxation of a quadratic program with two quadratic constraints," *SIAM Journal on Optimization*, vol. 31, no. 1, pp. 866-886, March 2021.
- J9. A. Wolek, **S. Cheng**, D. Goswami, and D. A. Paley, "Cooperative mapping and target search over an unknown occupancy graph using mutual information," *IEEE Robotics and Automation Letters*, vol. 5, no. 2, pp. 1071-1078, 2020.

#### *Conference papers*

- C1. J. L. Bullock<sup>†</sup>, **S. Cheng**, N. Hovakimyan, A.C. Trujillo, "Robust Path-following Controller for Multirotor Vehicles in Uncertain Wind Conditions," to appear at 2025 AIAA SciTech Forum, 2025
- C2. C. Tao<sup>†</sup>, **S. Cheng**, Y. Zhao, F. Wang, N. Hovakimyan, "An Optimization-Based Planner with B-spline Parameterized Continuous-Time Reference Signals," in *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2024.
- C3. Y. Gu<sup>†</sup>, **S. Cheng**, N. Hovakimyan, "Proto-MPC: An Encoder-Prototype-Decoder Approach for Quadrotor Control in Challenging Winds," in *Proceedings of 6<sup>th</sup> Learning for Dynamics and Control*, pp. 1674–1775, 2024.
- C4. J. L. Bullock<sup>†</sup>, **S. Cheng**, A. Patterson, M. Acheson, N. Hovakimyan, I. Gregory, "Reference Command Optimization for the Transition Flight Mode of a Lift Plus Cruise Vehicle," in *Proceedings of 2024 AIAA SciTech Forum*, p. 0721, 2024.
- C5. L. Song<sup>†</sup>, **S. Cheng**, N. Hovakimyan, S. Mitra, "Automatic Formal Verification of  $L_1$  Adaptive Control Systems," in *Proceedings of 2024 AIAA SciTech Forum*, p. 1165, 2024.
- C6. A. Bansal, Y. Zhao, J. Zhu, **S. Cheng**, Y. Gu, H. Yoon, H. Kim, N. Hovakimyan, L. Sha, "Synergistic Perception and Control Simplex for Verifiable Safe Vertical Landing," in *Proceedings of 2024 AIAA SciTech Forum*, p. 1167, 2024.
- C7. L. Song<sup>†</sup>, Y. Li, **S. Cheng**, P. Zhao, S. Mitra, N. Hovakimyan, "Verification of  $\mathcal{L}_1$  Adaptive Control using Verse Library: A Case Study of Quadrotors," In *Proceedings of the ACM/IEEE 14th International Conference on Cyber-Physical Systems (with CPS-IoT Week 2023)*, pp.245–246, San Antonio, TX, 2023.
- C8. **S. Cheng**, L. Song<sup>†</sup>, M. Kim, S. Wang, N. Hovakimyan, "DiffTune+: Hyperparameter-Free Auto-Tuning using Auto-Differentiation," In *Proceedings of 5<sup>th</sup> Learning for Dynamics and Control Conference*, pp. 170-183, PMLR, *Selected for oral presentation (9.5% acceptance rate)*, 2023.
- C9. Z. Wu<sup>†</sup>, **S. Cheng**, K. A. Ackerman, A. Gahlawat, A. Lakshmanan, P. Zhao, and N. Hovakimyan, " $\mathcal{L}_1$  Adaptive Augmentation for Geometric Tracking Control of Quadrotors," *2022 International Conference on Robotics and Automation*, pp. 1329–1336, Philadelphia, PA, 2022.
- C10. **S. Cheng** and D. A. Paley, "Optimal guidance of a team of mobile actuators for controlling a 1D diffusion process with unknown initial conditions," *2021 American Control Conference*, pp. 1497-1502, New Orleans, LA, 2021.
- C11. **S. Cheng** and D. A. Paley, "Optimal guidance and estimation of a 1D diffusion process by a team of mobile sensors," *2020 IEEE Conference on Decision and Control*, pp. 1222–1228, Jeju Island, South Korea, 2020.
- C12. **S. Cheng** and D. A. Paley, "Optimal control of a 1D diffusion process with a team of mobile actuators under jointly optimal guidance," *American Control Conference*, pp. 3449-3454, Denver, CO, 2020.
- C13. **S. Cheng** and N. C. Martins, "Reaching a target in a time-costly area using a two-stage optimal control method," *American Control Conference*, pp. 4903-4910, Philadelphia, PA, 2019.

#### *Posters, Demos, and Workshop Papers*

- MISC1. **S. Cheng**, Y. Gu, R. Tao, S. Wang, X. Wang, N. Hovakimyan, "Task-Parameter Nexus for Learning Task-Specific Parameters in Model-Based Control," presented as a poster at ICRA@40, 2024.
- MISC2. L. Song<sup>†</sup>, **S. Cheng**, N. Hovakimyan, "Meta-Learning-Inspired Control Auto-Tuning with Verified Robustness," presented as a poster at the *Formal methods techniques in robotics systems: Design and control Workshop* at

IEEE/RSJ International Conference on Intelligent Robots and Systems, 2023.

MISC3. C. Ray<sup>†</sup>, **S. Cheng**, N. Hovakimyan, “An Educational Quadrotor Testbed for  $\mathcal{L}_1$  Adaptive Control,” demonstrated on-site at IEEE/RSJ International Conference on Intelligent Robots and Systems, 2023 | [\[code\]](#)

MISC4. **S. Cheng**, M. Kim, L. Song, Z. Wu, S. Wang, N. Hovakimyan, “DiffTune: Auto-Tuning through Auto-Differentiation,” presented as an invited poster at 2023 Hyundai Vision Conference, 2023

MISC5. **S. Cheng**, M. Kim, L. Song, Z. Wu, S. Wang, N. Hovakimyan, “DiffTune: Auto-Tuning through Auto-Differentiation,” presented as a late breaking poster at the American Control Conference, 2023

MISC6. **S. Cheng**, M. Kim, L. Song, Z. Wu, S. Wang, N. Hovakimyan, “An Auto-Tuning Framework for Controllers using Auto-Differentiation,” orally presented at the *Learning to Adapt and Improve in the Real World Workshop* at the Conference on Robot Learning, 2022

## RESEARCH EXPERIENCE

---

### University of Illinois Urbana-Champaign

**Personalized Robotic Assistance via safe, user-taught functionalities (NSF M3X)** 09/2024—present

Role: Senior Personnel

Collaborator: Dr. Naira Hovakimyan, Dr. Frances Wang

- Advising students to build a virtual reality testbed for mimicking and evaluating human responses to rendered robots in collaborative tasks.
- Proposed the task-parameter nexus for task adaptation of low-level controllers using a neural network.

**Guaranteed Tubes for Safe Learning across Autonomy Architectures (NSF SLES)** 01/2024—present

Role: Postdoctoral Research Associate

Collaborator: Dr. Naira Hovakimyan, Dr. Shenlong Wang, Dr. Xiaofeng Wang

- Advising Ph.D. students to develop a Simplex-based switching law for controller selection in an autonomous system with safety guarantees subject to off-nominal conditions.
- Advising graduate students to integrate the switching law into a Turtlebot autonomy pipeline.

**Robust and Resilient Autonomy for Advanced Air Mobility (NASA ULI)**

11/2022—present

Role: Lead Postdoctoral Research Associate

Advisor: Dr. Naira Hovakimyan

- Advising a Ph.D. student to develop an  $\mathcal{L}_1$  adaptive controller to handle convective wind in quadrotor flight in the applications of forest fire fighting (applied in NASA ACERO).
- Advising a Ph.D. student to develop an auto-tuning scheme for coordinated parameter tuning of a generalized controller and an optimization-based control allocation.
- Advising a student team to build quadrotor platforms that can perform learning onboard with real-time data.
- Proposed to use parametric trajectory optimization and differential flatness of vertical takeoff and landing (VTOL) vehicles to address the control ambiguity issue of VTOL vehicles at transition phase.
- Integrated  $\mathcal{L}_1$  adaptive control with verifiable obstacle detection algorithm for synergistic perception and control simplex on AAM vehicles in an autonomous landing scenario.
- Advised undergraduate students to develop a differentiable UAV trajectory planning algorithm that achieves simultaneous spatial and temporal optimization.

**DiffTune: Auto-Tuning Through Auto-Differentiation (NASA CRA)**

05/2022—present

Role: Postdoctoral Research Associate

Collaborator: Dr. Naira Hovakimyan, Dr. Shenlong Wang

- Proposed a novel auto-tuning scheme using auto-differentiation (DiffTune) that connects conventional non-machine-learning controllers to machine learning and applies auto-differentiation for efficient and safe controller tuning.
- Proposed hyperparameter-free DiffTune that promotes faster controller tuning without hyperparameter-tuning.
- Experimentally verified the efficacy of DiffTune in tuning a challenging nonlinear controller for quadrotor and systematically evaluated its tuning performance, generalization, and handling of uncertainties.
- Developed and open-sourced the DiffTune toolset which facilitates custom tuning applications of other users.

- Advised Ph.D. students on the development of DiffTune to closed-loop learning for model predictive control.
- Investigating the theoretical foundations for gradient estimation subject to uncertainties and noise in systems.
- Extending capabilities of DiffTune to handle controller tuning with non-differentiable dynamics/controllers/costs.
- Leading the collaboration with a research team from USC to develop applications of DiffTune for bipedal robots.

#### **Autonomous Quadrotor with Safety Guarantees (NASA CRA)**

09/2021—08/2024

Role: Postdoctoral Research Associate

Advisor: Dr. Naira Hovakimyan

- Lead the theoretical development and experimentation of a safe and agile quadrotor control framework ( $\mathcal{L}_1$ Quad) that applies the  $\mathcal{L}_1$  adaptive augmentation to a geometric controller.
- Developed the experimental quadrotor testbed by customizing Ardupilot firmware for efficient onboard computation (400 Hz).
- Lead the open sourcing of  $\mathcal{L}_1$ Quad implementation in Matlab/Simulink (Parrot Mambo) and C++ (Ardupilot and Crazyflie).
- Lead the collaboration with a research team from JAIST to deploy  $\mathcal{L}_1$ Quad to a resilient quadrotor platform with soft propellers.

University of Maryland, College Park

#### **Distributed Estimation and Control of a Spatiotemporal Process with Multiple Aerial Vehicles**

02/2019—08/2021

Role: Graduate Research Assistant

Advisor: Dr. Derek Paley

- Proposed a jointly optimal guidance and actuation/sensing strategy for a team of mobile actuators/sensors to efficiently control/estimate a 2D diffusion-advection process.
- Validated the jointly optimal guidance and actuation/sensing strategies in hardware-in-the-loop simulations with an outdoor quadrotor swarm testbed.
- Built and maintained the outdoor quadrotor swarm testbed with six quadrotors.

#### **Cooperative Mapping, Searching, and Tracking in an Uncertain Urban Environment**

09/2018—06/2019

Role: Graduate Research Assistant

Advisor: Dr. Derek Paley

- Proposed an efficient mapping strategy that drives agents to follow waypoints generated from frontier nodes and unexplored regions.
- Proposed a path planning method that generates conflict-free and locally optimal paths over a graph-based map.
- Built quadrotors with Pixhawk flight controllers and engaged in the development of the coordination software OpenMACE led by Heron Systems, Inc (acquired by Shield AI in 2021).
- Validated a cooperative mapping and search algorithm on the outdoor quadrotor swarm testbed.

#### **Reaching a Target within a GPS-denied or Costly Area: a Two-stage Optimal Control Approach**

08/2016—08/2018

Role: Graduate Research Assistant

Advisor: Dr. Nuno Martins

- Formulated a two-stage optimization problem and transformed it into a quadratic program with two quadratic constraints (QC2QP).
- Proposed a necessary and sufficient test to determine whether a globally optimal solution for a general QC2QP can be computed from that of a specific convex semidefinite relaxation.
- Implemented a controller that steers a quadrotor to reach a target within a denied area in experiments.
- Analyzed data from bat experiments (conducted by Comparative Neural Systems and Behavior Lab at JHU) and investigated bat's strategy on reaching a target within a man-made denied area.

### **PROPOSAL EXPERIENCE**

**NSF EAGER: TaskDCL: Personalized Robotic Assistance: Developing Safe, User-Taught Functionalities for Diverse Needs**

06/2024

PI: Dr. Naira Hovakimyan

**[Funded, \$300K]**

University of Illinois Urbana-Champaign

- Formed the scope and plans for the proposal and coordinated the PI and co-PIs from different institutions.
- Wrote 100% of the proposal.

**NSF SLES: Guaranteed Tubes for Safe Learning across Autonomy Architectures** 05/2023

PI: Dr. Naira Hovakimyan [Funded, \$1.5M] University of Illinois Urbana-Champaign

- Led the discussions to form the scope and plans for the proposal by coordinating the PI and co-PIs from different institutions.
- Wrote 40% of the proposal (one technical thrust using DiffTune).

**AFOSR DURIP: A Training-Testing-Benchmarking Environment for Learning-Enabled Control Frameworks** 05/2022

PI: Dr. Naira Hovakimyan [Funded] University of Illinois Urbana-Champaign

- Devised the scope and components of the proposed facility based on the needs from various projects in the lab.
- Wrote 100% of the proposal.

**Safe UAV Flight in Challenging Environments with Uncertainty-Aware Perception, Planning, and Control** 09/2022

PI: Dr. Naira Hovakimyan Submitted to Sony Research Award Program University of Illinois Urbana-Champaign

- Led the discussions to form the scope and plans for the proposal.
- Wrote 50% of the proposal (background, research objectives, and thrusts).

**Safe and Robust Autonomous Flight in Challenging Environments with Uncertainty-aware Perception, Planning, and Control** Submitted to Smart Transportation Infrastructure Initiative 04/2022

PI: Dr. Shenlong Wang University of Illinois Urbana-Champaign

- Led the discussions to form the scope and plans for the proposal.
- Wrote 50% of the proposal (background, research objectives, and thrusts).

**NASA ULI: Robust and Resilient Autonomy for Advanced Air Mobility** 10/2021

PI: Dr. Naira Hovakimyan [Funded, \$6M] University of Illinois Urbana-Champaign

- Participated in the discussion with collaborators from multi-disciplinary backgrounds to develop the proposal.
- Wrote 5% of the proposal (outreach section, project management, and data management plan).

**Distributed Estimation and Control of a Spatiotemporal Process with Multiple Underwater Vehicles** 06/2020

PI: Dr. Derek Paley [Funded, \$56K] University of Maryland, College Park

- Developed the proposal to Northrop Grumman-UMD seed grant on my Ph.D. work of optimal estimation and control of a spatiotemporal process, with applications to multiple underwater vehicles.
- Wrote 100% of the proposal.

**Distributed Estimation and Control of a Spatiotemporal Process with Multiple Aerial Vehicles** 02/2020

PI: Dr. Derek Paley [Whitepaper to Isarel Minister of Defense] University of Maryland, College Park

- Developed the proposal to Isarel Minister of Defense on my Ph.D. work of optimal estimation and control of a spatiotemporal process, with applications to multiple aerial vehicles.
- Wrote 100% of the proposal.

**Autonomous Resource Allocation for Distributed Estimation and Control of Dynamical Systems** 05/2019

PI: Dr. Derek Paley [Whitepaper to AFOSR] University of Maryland, College Park

- Proposed to use partial differential equations to model the spatiotemporal dynamical system.
- Wrote 30% of the proposal (prior work, advancements to the state-of-the-art, technical thrust).

## SEMINARS and PRESENTATIONS

**Invited seminar**, Long Feng Science Forum at CUHK-Shenzhen 08/2023

**Invited seminar**, Robotics and Perception Group at the University of Zurich 07/2023

**Oral presentation**, 5<sup>th</sup> Learning for Dynamics and Control (9.5% acceptance rate) 06/2023

**Invited seminar**, Robotics Seminars @ Illinois, University of Illinois Urbana-Champaign 03/2023

**Invited seminar**, Secure Learning Lab, University of Illinois Urbana-Champaign 02/2023

<b>Invited seminar</b> , Robotics and Controls Seminar, University of North Carolina at Charlotte	02/2023
<b>Job talk</b> , Advanced Controls Research Laboratory, University of Illinois Urbana-Champaign	05/2021
<b>Oral presentation</b> , SIAM Conference on Applications of Dynamical Systems	05/2021
<b>Oral presentation</b> , American Control Conference	05/2021
<b>Oral presentation</b> , IEEE Conference on Decision and Control	12/2020
<b>Oral presentation</b> , American Control Conference	07/2020
<b>Oral presentation</b> , American Control Conference	07/2019

#### SELECTED HONORS AND AWARDS

<b>Excellent Reviewer</b> , AIAA Journal of Guidance, Control, and Dynamics.	12/2022
<b>Student Travel Support Award</b> , 2020 IEEE Conference on Decision and Control.	12/2020
<b>Student Travel Award</b> , 2020 American Control Conference.	06/2020
<b>Future Faculty Fellow</b> , A. James Clark School of Engineering, University of Maryland.	12/2018
<b>George Corcoran Award</b> , Department of Electrical and Computer Engineering, University of Maryland.	09/2016
<b>International Teaching Fellowship</b> , University of Maryland.	10/2015
<b>Distinguished Teaching Assistant Award</b> , ECE Department, University of Maryland.	05/2015
<b>Outstanding Undergraduate Thesis Award</b> , Harbin Institute of Technology.	07/2014

#### TEACHING EXPERIENCE

<b>Lecturer</b> , “Advanced Dynamics of Aerospace Systems” (co-teaching with Dr. Derek Paley)	01/2021–05/2021
<b>Teaching Assistant Training &amp; Development Fellow</b> , ECE Department, University of Maryland.	08/2015–05/2016
<b>International Teaching Fellow Mentor</b> , University of Maryland.	10/2015–05/2016
<b>Teaching Assistant</b> , ECE Department, University of Maryland.	08/2014–05/2016

#### PROFESSIONAL SERVICES

<b>Co-organizer</b> , A Tutorial on Autonomy and Advanced Air Mobility: Aviation Paradigm Change, ACC 2025	07/2025
<b>Session Chair</b> , Control Techniques for AAM Autonomy (GNC-28), AIAA SciTech 2024	01/2024
<b>Session Chair</b> , Motion and Path Planning I, 2023 IROS	10/2023
<b>Co-organizer</b> , Workshop on Robust and Resilient Autonomy: Progress and Challenges, IFAC World Congress	07/2023
<b>Co-organizer</b> , the GN&C Workshop, 2023 AIAA SciTech Forum	01/2023
<b>Coordinator</b> , AVIATE Seminar, University of Illinois Urbana-Champaign	10/2022–present
<b>Co-organizer, one-day lab workshop for hosting Dr. Kevin Wise</b> ( <i>Vice President and Distinguished Senior Technical Fellow at Boeing</i> ), Advanced Controls Research Laboratory, University of Illinois Urbana-Champaign	09/2022

#### PROFESSIONAL ACTIVITIES AND AFFILIATIONS

<b>Journal Reviewer</b> : IEEE Transactions on Control Systems Technology; IEEE Transactions on Automatic Control; IEEE Transactions on Aerospace and Electronic Systems; IEEE Transactions on Industrial Informatics; Automatica; IEEE Robotics and Automation Letters; Journal of Guidance, Control, and Dynamics; IEEE Control Systems Letters; Robotics; Sensors.
<b>Conference Reviewer</b> : ICRA; IROS; CoRL; L4DC; CDC; ACC; IFAC WC; CASE; and DARS-SWARM.
<b>Member</b> : IEEE CSS Technical Committee on Intelligent Control.

#### SKILLS

Proficient in LaTeX, C/C++, Python, ROS, shell scripting, and simulation software, including MATLAB and Simulink.
Proficient in commercial autopilot system ArduPilot, both software usage and customization and hardware configuration.
Proficient in video filming and processing using Adobe Premiere Pro and Sony Vegas Pro.

#### MENTORED STUDENTS

*Ph.D. students*

Hung Tien Pham (Visiting student from Japan Advanced Institute of Science and Technology)	01/2024–08/2024
Ran Tao (Mechanical Engineering, University of Illinois Urbana-Champaign)	09/2023–present
Ziyin Han (Mechanical Engineering, University of Illinois Urbana-Champaign)	08/2023–present
John Bullock (Electrical and Computer Engineering, University of Illinois Urbana-Champaign)	09/2022–present
Yuliang Gu (Mechanical Engineering, University of Illinois Urbana-Champaign)	09/2022–present
Chengyu Yang (Mechanical Engineering, University of Illinois Urbana-Champaign)	06/2023–present
Lin Song (Mechanical Engineering, University of Illinois Urbana-Champaign)	07/2022–present
Chuyuan Tao (Mechanical Engineering, University of Illinois Urbana-Champaign)	03/2022–present
Minkyung Kim (Mechanical Engineering, University of Illinois Urbana-Champaign)	02/2022–present
Masamichi Kosuge (Visiting student from Keio University)	12/2021–03/2022
Hyungyu Lee (Mechanical Engineering, University of Illinois Urbana-Champaign)	12/2021– present
Michael Aramyan (Mechanical Engineering, University of Illinois Urbana-Champaign)	10/2021– present
Zhuohuan Wu (Mechanical Engineering, University of Illinois Urbana-Champaign)	09/2021–02/2023
<i>Master students</i>	
Bihao Mo (Computer Engineering, University of Illinois Urbana-Champaign)	08/2024–present
Junjie Gao (Computer Engineering, University of Illinois Urbana-Champaign)	06/2024–present
Yang Zhao (Mechanical Engineering, University of Illinois Urbana-Champaign)	05/2023–05/2024
Koushik Udayachandran (Aerospace Engineering, University of Illinois Urbana-Champaign)	03/2023–05/2023
Rong Wang (Mechanical Engineering, University of Illinois Urbana-Champaign)	09/2022–02/2023
Charlie Ray (Aerospace Engineering, University of Illinois Urbana-Champaign)	06/2022–05/2023
Chengyu Yang (Mechanical Engineering, University of Illinois Urbana-Champaign)	05/2022–05/2023
Jiahao Yu (Mechanical Engineering, University of Illinois Urbana-Champaign)	05/2022–12/2022
<i>Undergraduate students</i>	
Yuxuan Nai (Mechanical Engineering, University of Illinois Urbana-Champaign)	09/2024–present
Shishir Bhatta (Computer Science, University of Illinois Urbana-Champaign)	09/2023–12/2023
Junjie Gao (Computer Engineering, University of Illinois Urbana-Champaign)	05/2023–05/2024
Yiquan Jin (Mechanical Engineering, University of Illinois Urbana-Champaign)	03/2023–07/2023
Chenhao Xu (Computer Science, University of Illinois Urbana-Champaign)	10/2022–05/2023
Di Liang (Computer Science, University of Illinois Urbana-Champaign)	10/2022–12/2023
Donggu Lee (Mechanical Engineering, University of Illinois Urbana-Champaign)	09/2022–05/2023
Jae Lee (Mechanical Engineering, University of Illinois Urbana-Champaign)	08/2022–05/2023
Casey Li (Mechanical Engineering, University of Illinois Urbana-Champaign)	05/2022–05/2023
Zhongchun Yu (Mechanical Engineering, University of Illinois Urbana-Champaign)	05/2022–05/2023
Youyou Yu (Computer Engineering, University of Illinois Urbana-Champaign)	05/2022–05/2023
Qianzhong Chen (Mechanical Engineering, University of Illinois Urbana-Champaign)	01/2022–12/2022
Simon Ge (Computer Engineering, University of Illinois Urbana-Champaign)	01/2022–05/2023
Albert Kwan (Aerospace Engineering, University of Illinois Urbana-Champaign)	12/2021–05/2022
Clive Chung (Mechanical Engineering, University of Illinois Urbana-Champaign)	09/2021–05/2023
Ezra Bregin (Aerospace Engineering, University of Maryland)	09/2020–05/2021
Charles Flanagan (Aerospace Engineering, University of Maryland)	09/2019–05/2020
Joshua Yuan (Summer Research Student, University of Maryland)	05/2019–08/2019
Aniket Goel (Aerospace Engineering, University of Maryland)	09/2018–05/2019