Darshan Gadginmath

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Education

University of California Riverside 2020 - present
Ph.D. in *Mechanical Engineering* Riverside, CA

Visvesaraya Technological University 2014 - 2018
Bachelor of Engineering in *Electrical and Electronics Engineering* Bengaluru, India

Experience

Research Intern Sep 2024 - Dec 2024
Honda Research Institute - US San Jose, CA

Research on motion planning with multimodal prediction models and active probing human drivers for intention inference.

Graduate Student Researcher Oct 2020 - present
University of California, Riverside Riverside, CA

Research on data-driven control and security of dynamical systems (PI: Prof. Fabio Pasqualetti).

Teaching Assistant Jan 2022 - March 2022
University of California, Riverside Riverside, CA

Research Assistant Jun 2018 - Aug 2020
Indian Institute of Science Bengaluru, India

Research on autonomous navigation at unsignalized intersections (PI: Prof. Pavankumar Tallapragada).

Honours and Awards

Dean's Distinguished Fellowship: PhD in Mechanical Engineering 2020-2025

Graduate Student Conference Travel Grant: ACC, CDC 2022-2024

Publications

Journal articles

[1] C. De Persis, **D. Gadginmath**, F. Pasqualetti, and P. Tesi. "Feedback Linearization through the Lens of Data". In: (2025).

[2] **D. Gadginmath**, V. Krishnan, and F. Pasqualetti. "Data-driven feedback linearization using the Koopman generator". In: *IEEE Transactions on Automatic Control (under review)* (2024).

Conference proceedings

[1] **D. Gadginmath**, S. Tripathi, and F. Pasqualetti. "Fusing Multiple Algorithms for Heterogeneous Online Learning". In: *American Control Conference* (2025).

[2] K. Elamvazhuthi, **D. Gadginmath**, and F. Pasqualetti. "Denoising Diffusion-Based Control of Nonlinear Systems". In: *63rd IEEE Conference on Decision and Control (CDC)* (2024).

[3] C. De Persis, **D. Gadginmath**, F. Pasqualetti, and P. Tesi. "Data-Driven Feedback Linearization with Complete Dictionaries". In: *62nd IEEE Conference on Decision and Control (CDC)*. IEEE. 2023.

[4] **D. Gadginmath**, V. Krishnan, and F. Pasqualetti. "Direct vs indirect methods for behavior-based attack detection". In: *2022 IEEE 61st Conference on Decision and Control (CDC)*. IEEE. 2022, pp. 7090–7096.

[5] **D. Gadginmath** and P. Tallapragada. "Data-guided distributed intersection management for connected and automated vehicles". In: *2022 American Control Conference (ACC)*. IEEE. 2022, pp. 767–774.

Talks

Denoising Diffusion Models for Nonlinear Control — UCLA, Los Angeles
Southern California Control Workshop — April, 2024

Direct vs Indirect Methods for Behavior-based Attack Detection — Cancun, Mexico
61st Conference on Decision and Control — Dec, 2022

Data-guided Distributed Intersection Management — Atlanta, GA
American Control Conference — June, 2022

Professional Service

Reviewer

- *Conference on Decision and Control*
- *American Control Conference*
- *Learning for Decision and Control Conference*
- *IEEE Transactions on Intelligent Vehicles*
- *IEEE Transactions on Intelligent Transportation Systems*
- *IEEE Transactions on Control of Network Systems*
- *IEEE Transactions on Automatic Control*
- *Automatica*

Affiliations

- *IEEE Student Member*
- *IEEE Control Systems Society*