

Elizabeth Dietrich

University of California, Berkeley

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Position

University of California, Berkeley

GRADUATE STUDENT RESEARCHER

Electrical Engineering and Computer Sciences

Berkeley, USA

08/2023 – Today

Interests

Methods

reachability analysis · formal methods · data-driven control

Topics

autonomous systems · control theory · maritime

Education

University of California, Berkeley

PHD IN ELECTRICAL ENGINEERING AND COMPUTER SCIENCES

Advisor: Murat Arcak

Berkeley, CA, USA

08/2023 – Today

Indiana University, Bloomington

B.S. IN COMPUTER SCIENCE, MINOR IN MATHEMATICS

Bloomington, IN, USA

08/2017 – 05/2021

Visits

Norwegian University of Science and Technology (NTNU)

VISITING RESEARCHER

MC Lab (Asgeir J Sørensen and Roger Skjetne)

Trondheim, Norway

05/2025 – Today

Norwegian University of Science and Technology (NTNU)

VISITING RESEARCHER

MC Lab (Asgeir J Sørensen)

Trondheim, Norway

05/2024 – 07/2024

Publications

* first author(s)

PREPRINTS

Elizabeth Dietrich, Rosalyn Devonport, Stephen Tu, and Murat Arcak. *Data-Driven Reachability with Scenario Optimization and the Holdout Method*. 2025

Elizabeth Dietrich*, Emir Cem Gezer*, Bingzhuo Zhong, Murat Arcak, Majid Zamani, Roger Skjetne, and Asgeir Johan Sørensen. *Symbolic Control for Autonomous Docking of Marine Surface Vessels*. 2025

CONFERENCE PAPERS

Elizabeth Dietrich, Alex Devonport, and Murat Arcak. “Nonconvex scenario optimization for data-driven reachability”. In: *Proceedings of the 6th Annual Learning for Dynamics and Control Conference*. Vol. 242. Proceedings of Machine Learning Research. PMLR, 15–17 Jul 2024, pp. 514–527

Invited Talks

2025 NSF Frontier: Computation-Aware Algorithmic Design for CPSs Review, UCB/UCSC/UPenn/CU Boulder/Vanderbilt
2022 Luddy School of Informatics, Computing, and Engineering Seminar, Indiana University Bloomington · Intelligent Systems Symposium, Johns Hopkins University APL

Professional Experience

08/2021 – 07/2023 **Associate Staff: Research Scientist** · Johns Hopkins University Applied Physics Laboratory
05/2020 – 08/2021 **Undergraduate Research Assistant** · New York University Courant Institute
05/2019 – 08/2019 **Software Engineer Intern** · Amazon

Teaching Experience

Spring 2025 **Optimization of Engineering Systems (MAS-E 238C)**, Graduate Teaching Assistant
Fall 2024 **Analysis and Control of Nonlinear Systems (MAS-E 250A)**, Graduate Teaching Assistant
Spring 2022 **MATLAB II**, STEM Academy Instructor JHUAPL
Fall 2018 & 2019 **Introduction to Computer Science (CSCI-C211)**, Undergraduate Teaching Assistant

Service to the Profession

COMMITTEES & ORGANIZATION

2025 - **Graduate Student Steering Committee (SCALE Lab)**, Organization of activities for safety, autonomy, controls, learning, and embedded systems (SCALE) lab group. *UCB*
2024 - **EECS Equal Access to Application Assistance (EEAAA)**, Assist underrepresented prospective PhD students on their graduate school applications to help equalize access to guidance on the application process. *UCB*
03/2025 **UC Berkeley EECS Visit Days**, Organization of activities for prospective PhD students in controls, automation, learning, and embedded systems. *UCB*

PEER REVIEW

Conferences: Conference on Decision and Control (CDC)

Journals: IEEE Control System Letters (L-CSS)

Awards, Fellowships, & Grants

2025 **Fernström Fellowship**, University of California, Berkeley
2023 **NSF Graduate Research Fellowship (GRFP)**, National Science Foundation
2021 **Kate Hevner Mueller Senior Award**, Indiana University, Bloomington
2020 **Goldwater Scholar**, Barry Goldwater Scholarship and Excellence in Education Foundation