

# Spencer Hutchinson

April 2026

Santa Barbara, CA | +1 503 803 3373 | [spencer.hutch99@gmail.com](mailto:spencer.hutch99@gmail.com) | [Google Scholar Profile](#)

## EDUCATION

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### University of California, Santa Barbara

Ph.D. Electrical and Computer Engineering

M.S. Electrical and Computer Engineering

- **Advisor:** Prof. Mahnoosh Alizadeh
- **Concentration:** Control Systems
- **GPA:** 4.0/4.0

- **Coursework:** Linear Systems, Stochastic Processes, Estimation, Theoretical Machine Learning, Optimization, Optimal Control, Robust Control, Game Theory

Santa Barbara, CA

June 2026 (expected)

Dec. 2024

### Colorado School of Mines

B.S. Electrical Engineering (Summa Cum Laude)

- **GPA:** 3.98/4.0

Golden, CO

June 2021

## PUBLICATIONS

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1. **S. Hutchinson**, and M. Alizadeh, "Constrained Online Convex Optimization with Polyak Feasibility Steps," *International Conference on Machine Learning (ICML)* 2025.  
<https://proceedings.mlr.press/v267/hutchinson25a.html>.
2. A. Zibaie, **S. Hutchinson**, R. Pedarsani, and M. Alizadeh, "The Safety-Privacy Tradeoff in Linear Bandits," *IEEE International Symposium on Information Theory (ISIT)* 2025.  
<https://doi.org/10.1109/ISIT63088.2025.11195704>.
3. N. Jiang, **S. Hutchinson**, and M. Alizadeh, "Online Nonstochastic Control with Convex Safety Constraints," *American Control Conference (ACC)* 2025.  
<https://doi.org/10.23919/ACC63710.2025.11107926>.
4. **S. Hutchinson**, T. Chen and M. Alizadeh, "Optimistic Safety for Online Convex Optimization with Unknown Linear Constraints," *International Conference on Artificial Intelligence and Statistics (AISTATS)* 2025. <https://proceedings.mlr.press/v258/hutchinson25a.html>.
5. **S. Hutchinson**, A. Zibaie, R. Pedarsani, and M. Alizadeh, "Optimistic Algorithms for Safe Linear Bandits Under General Constraints," *IEEE Open Journal of Control Systems (OJCSYS)* 2025.  
<https://doi.org/10.1109/OJCSYS.2025.3558118>.
6. B. Turan, **S. Hutchinson** and M. Alizadeh, "A Safe First-Order Method for Pricing-Based Resource Allocation in Safety-Critical Networks," *IEEE Transactions on Control of Network Systems (TCNS)*, 2024, <https://doi.org/10.1109/TCNS.2024.3488516>.
7. **S. Hutchinson**, and M. Alizadeh, "Safe Online Convex Optimization with Multi-point Feedback," *Learning for Dynamics and Control Conference (L4DC)*, 2024,  
<https://proceedings.mlr.press/v242/hutchinson24a>.
8. B. Turan, **S. Hutchinson**, and M. Alizadeh, "Safe Dynamic Pricing for Nonstationary Network Resource Allocation," *Learning for Dynamics and Control Conference (L4DC)*, 2024,  
<https://proceedings.mlr.press/v242/turan24a.html>.
9. **S. Hutchinson**, and M. Alizadeh, "Safe Online Convex Optimization with First-order Feedback," *IEEE American Control Conference (ACC)*, 2024, <https://doi.org/10.23919/ACC60939.2024.10644318>.
10. **S. Hutchinson**, B. Turan and M. Alizadeh, "Directional Optimism for Safe Linear Bandits," *International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2024,  
<https://proceedings.mlr.press/v238/hutchinson24a.html>.
11. **S. Hutchinson**, B. Turan and M. Alizadeh, "Safe Pricing Mechanisms for Distributed Resource Allocation with Bandit Feedback," *IEEE Transactions on Control of Network Systems (TCNS)*, 2024,  
<https://doi.org/10.1109/TCNS.2024.3372143>.

12. **S. Hutchinson**, B. Turan and M. Alizadeh, “The Impact of the Geometric Properties of the Constraint Set in Safe Optimization with Bandit Feedback,” *Learning for Dynamics and Control Conference (L4DC)*, 2023. <https://proceedings.mlr.press/v211/hutchinson23a.html>.
13. **S. Hutchinson**, B. Turan and M. Alizadeh, “A Safe Pricing Mechanism for Distributed Resource Allocation with Bandit Feedback,” *2022 IEEE 61st Conference on Decision and Control (CDC)*, 2022, <https://ieeexplore.ieee.org/abstract/document/9993064>.
14. **S. Hutchinson**, W. G. Bernal Heredia and O. A. Ghatpande, “Resilience Metrics for Building-Level Electrical Distribution Systems with Energy Storage,” *2022 IEEE Conference on Technologies for Sustainability (SusTech)*, 2022, <https://ieeexplore.ieee.org/abstract/document/9794261>.

## PREPRINTS AND WORKSHOP PAPERS

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1. **S. Hutchinson**, N. Jiang, and M. Alizadeh, “Near-Optimal Regret for the Safe Learning-based Control of the Constrained Linear Quadratic Regulator,” April 2026, arXiv:2604.22158.
2. **S. Hutchinson**, A. P. Vinod, F. Germain, S. Di Cairano, C. R. Laughman, A. Chakrabarty, “Quantile-SMPC for Grid-Interactive Buildings with Multivariate Temporal Fusion Transformers,” *UrbanAI: Harnessing Artificial Intelligence for Smart Cities*, NeurIPS Workshop 2025. <https://openreview.net/forum?id=hArraYtuFS>.

## RESEARCH EXPERIENCE

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### Mitsubishi Electric Research Laboratories

Intern

Cambridge, MA  
June 2025 – Sep. 2025

- **Host:** Ankush Chakrabarty
- **Research topics:** stochastic model predictive control with deep forecasting models

### University of California, Santa Barbara

Graduate Student Researcher

Santa Barbara, CA  
Sep. 2021 – Present

- **Advisor:** Prof. Mahnoosh Alizadeh
- **Research topics:** safe learning, pricing design, online optimization, bandit learning, smart grid

### National Renewable Energy Laboratory

Science Undergraduate Laboratory Internship (SULI)

Golden, CO  
June 2021 – Aug. 2021

- **Mentors:** Willy Bernal-Heredia, Omkar Ghatpande
- **Research topic:** resilience metrics for building-level electrical distribution system

### Colorado School of Mines

Undergraduate Research Assistant

Golden, CO  
March 2020 – Sep. 2021

- **Advisor:** Prof. Tyrone Vincent
- **Research topic:** identification of low-order dynamics models for lithium batteries

## HONORS AND AWARDS

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- UCSB ECE Outstanding TA Award June 2023
- NSF GRFP Honorable Mention 2022
- UCSB ECE Department Fellowship Winter 2022
- CSM EE Outstanding Graduating Senior Spring 2021
- Tau Beta Pi Honor Society Fall 2020

## TEACHING EXPERIENCE

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### University of California, Santa Barbara

Teaching Assistant

Santa Barbara, CA, USA  
2022–Present

- ECE 133 Introduction to Optimization and Learning (Fall 2023, 2024)
- ECE 10C Foundations of Analog and Digital Circuits and Systems (Spring 2022, 2023, 2024, 2025)
- ECE 284 Theoretical Machine Learning (Grader) (Fall 2024)

## REVIEWING

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- **Machine Learning:** ICML, NeurIPS, ICLR, AISTATS, AAAI
- **Controls:** Transactions on Automatic Control, Automatica, Control Systems Letters, Transactions on Control of Network Systems, CDC, ACC, L4DC, NecSys
- **Other:** Transactions on Smart Grid, Transactions on Networking