

Eric Sager Luxenberg

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RESEARCH INTERESTS	I am broadly interested in convex optimization and its applications to control, machine learning and finance, and seek to develop new algorithms and open source tools for solving problems in these areas.	
EDUCATION	Stanford University	
	Ph.D., Electrical Engineering Advisor: Stephen Boyd GPA: 4.0	Sept 2020 - Present
	M.S., Electrical Engineering, GPA: 3.9	Sept 2019 - Mar 2020
	B.S., Mathematics, GPA: 3.9	Sept 2015 - June 2019
RELEVANT COURSEWORK (* GRADUATE)	Computer Science: Programming Abstractions, Systems, Machine Learning*, Algorithms, Convolutional Neural Nets*, Randomized Algorithms*, Reinforcement Learning*, Discrete Math and Algorithms* Mathematics: Honors Multivariable Mathematics, Complex Analysis, Scientific Computing, Stochastic Methods*, Groups and Rings, Real Analysis*, Theory of Probability*, Dynamic Programming and Stochastic Control*, Theory of Statistics*, Optimization Theory*, Machine Learning Theory* Electrical Engineering: Signal Processing and Linear Systems, Information Theory*, Fourier Transform*, Linear Dynamical Systems*, Convex Optimization*, Inference Estimation and Information Processing*, Large Scale Matrix Computation*	
PUBLICATIONS	Philipp Schiele*, Eric Luxenberg* , and Stephen Boyd. <i>Disciplined Saddle Programming</i> . arXiv preprint . E Luxenberg* , P Schiele*, S Boyd. <i>Robust Bond Portfolio Construction via Convex-Concave Saddle Point Optimization</i> . arXiv preprint . E Luxenberg , S Boyd, M van Beek, W Cao, M Kochenderfer. <i>Strategic Asset Allocation with Illiquid Alternatives</i> . Proceedings of the Third ACM International Conference on AI in Finance , 249-256. E Luxenberg* , P Schiele*, S Boyd. <i>Portfolio Optimization with Cumulative Prospect Theory Utility via Convex Optimization</i> . arXiv preprint . E Luxenberg , S Boyd. <i>Portfolio Construction with Gaussian Mixture Returns and Exponential Utility via Convex Optimization</i> . arXiv preprint . Under review. RA Fernandes, C Li, G Wang, X Yang, CS Savvides, CR Glassman, ... RA Fernandes, C Li, G Wang, X Yang, CS Savvides, CR Glassman, S Dong, E Luxenberg , LV Sibener, ME Birnbaum, C Benoist, D Mathis, KC Garcia. <i>Discovery of surrogate agonists for visceral fat Treg cells that modulate metabolic indices in vivo</i> . <i>Elife</i> 9. JW Khor, N Jean, E Luxenberg , S Ermon, SKY Tang. <i>Using machine learning to discover shape descriptors for predicting emulsion stability in a microfluidic channel</i> . <i>Soft matter</i> 15 (6), 1361-1372.	
EMPLOYMENT	BlackRock AI Labs Student Research Intern: <i>Strategic asset allocation with illiquid alternatives</i>	June 2021 - Dec 2022

Machine Learning Consultant (3T Biosciences):

Mar 2020 - Sept 2020

*Designed and implemented a pipeline for predicting T-cell activity***TEACHING
EXPERIENCE***Instructor, Stanford EE364a (Convex Optimization)*

Summer 2021-22

- Delivered 20 1.5 hour lectures, created exams and problem sets, managed course assistants

Head Course Assistant, Stanford EE364a (Convex Optimization)

Winter 2021-22

- Managed a team of 5 course assistants for a class of 230+ students

Course Assistant, Stanford EE364a (Convex Optimization)

Winter 2019-20

Course Assistant, Stanford EE263 (Linear Dynamical Systems)

Fall 2019-20

**TECHNICAL
SKILLS****Programming:** Python, Julia, C, C++**PROFESSIONAL
SERVICE**

Paper reviewing:

- 4th Annual Learning for Dynamics & Control Conference