Mark Goldstein / Марк Гольдштейн / **مرقس جولدشتاين**
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EDUCATION

New York University — New York, NY
Courant Institute of Mathematical Sciences, Computer Science — Fall 2018 - Present
PhD Candidate. Advisors: Rajesh Ranganath and Thomas Wies

Harvard University — Cambridge, MA
School of Engineering and Applied Sciences, Computer Science — Spring 2016 - Spring 2018
Special Student (mix of undergrad and PhD coursework)

New England Conservatory of Music — Boston, MA
Bachelor of Music in Contemporary Improvisation — Fall 2011 - Spring 2015

EXPERIENCE

Student Researcher, Google DeepMind, generative models — New York, NY, Summer + Fall 2024

Fellow, Harvard SEAS, visitor — Cambridge, MA, Summer 2021 - Present

Non-traditional Volunteer, NYU Langone, Population Health department — New York, NY, Spring 2020 - Present

Machine Learning Research Intern, Apple, Health AI — New York, NY
Supervisor: Andy Miller, Joe Futoma — Summer 2021 - Summer 2022

Teaching Assistant, NYU, Computer Science department — New York, NY, Fall 2019 - Spring 2022

- CSCI-GA.2565: Machine Learning. Prof: Rajesh Ranganath. Spring 2022.
- CSCI-GA.2565: Machine Learning. Prof: Rajesh Ranganath. Spring 2021.
- CSCI-GA.2572: Deep Learning. Prof: Yann LeCun. Spring 2020.
- CSCI-GA.2565: Machine Learning. Prof: Rajesh Ranganath. Fall 2019.

Teaching Fellow, Harvard University, Computer Science department — Cambridge, MA, Spring 2016 - Spring 2021

- CS 181: Machine Learning. Profs: Finale Doshi-Velez and David Parkes. Spring 2021.$^{\star +}$
- CS 252: Programming Languages and Artificial Intelligence. Prof: Nada Amin. Fall 2020.$^{\dagger +}$
- CS 181: Machine Learning. Prof: Finale Doshi-Velez. Spring 2018.$^{\star +}$
- CS 281: Advanced Machine Learning. Prof: Sasha Rush. Fall 2017.$^{\star \dagger +}$
- CS 121: Intro to Theoretical CS. Profs: Boaz Barak and Salil Vadhan. Fall 2017.$^{+}$
- CS 181: Machine Learning. Profs: David Parkes and Sasha Rush. Spring 2017.$^{+}$
- CS 61: Systems Programming and Machine Organization. Profs: Margo Seltzer and Eddie Kohler. Fall 2016.$^{+}$

*Head Teaching Fellow, †Graduate Level, $^{+}$Harvard Distinction in Teaching Award

Research Intern, RIKEN, Center for Advanced Intelligence Project — Tokyo, Japan
PI: Mohammad Emtiyaz Khan, Approximate Bayesian Inference Team — Summer 2019

Research Assistant, MIT, Brain and Cognitive Sciences department — Cambridge, MA
PI: Josh Tenenbaum, Computational Cognitive Science group — Summer 2018

INVITED TALKS + WORKSHOP ORGANIZATION + WORKSHOP ATTENDENCE

- Participated in the 2nd Flatiron workshop on Measure Transport, Sampling, and Diffusions in Dec, 2023.
- Gave a few weeks of talks about diffusions and flows at the Decisions, Risk and Operations ML reading group at Columbia (Nov and Dec 2023).
- Taught a guest lecture on diffusions and flows for the NYU graduate course Inference and Representations (Nov 2023)
- Co-organized the second iteration of Workshop on Spurious Correlations, Invariance, and Stability @ ICML 2023.
- Gave a guest lecture on diffusion models at Yann LeCun and Alfredo Canziani's Deep Learning course. Fall 2022.
- Spoke about our work on Auxiliary Variable Diffusion Models at Flatiron Institute's workshop on Sampling, Transport, and Diffusions. Fall 2022.
- Co-organized Workshop on Spurious Correlations, Invariance, and Stability @ ICML 2022.

PUBLICATIONS

Yuxuan Hu, Mark Goldstein, Rajesh Ranganath, and others. A dynamic risk score for early prediction of cardiogenic shock using machine learning. European Heart Journal: Acute Cardiovascular Care. 2024. arxiv.

Yifan Chen, Mark Goldstein, Mengjian Hua, Michael S. Albergo, Nicholas M. Boffi, and Eric Vanden-Eijnden. Probabilistic Forecasting with Stochastic Interpolants and Föllmer Processes. 2024.

Nanye Willis Ma, Mark Goldstein, Michael Albergo, Nick Boffi, Eric Vanden-Eijnden, and Saining Xie. SiT: Exploring Flow and Diffusion-based Generative Models with Scalable Interpolant Transformers. 2024.

Mark Goldstein, Michael Albergo, Nick Boffi, Rajesh Ranganath, and Eric Vanden-Eijnden. Stochastic interpolants with data-dependent couplings. 2023.

Hao Zhang, Mark Goldstein, Rajesh Ranganath, and others. QTNet: Predicting Drug-Induced QT Prolongation with Artificial Intelligence-Enabled Electrocardiograms. Published in Journals of the American College of Cardiology, Clinical Electrophysiology. 2023.

Mark Goldstein, Raghav Singhal, Rajesh Ranganath. Where to Diffuse, How to Diffuse and How to get back: Learning in Multivariate Diffusions. Conference paper @ International Conference on Learning Representations. 2023.

Xintian Han, Mark Goldstein, Rajesh Ranganath. Survival Mixture Density Networks. Conference paper @ Machine Learning for Healthcare Conference. PMLR, 2022.

Mark Goldstein, Jörn-Henrik Jacobsen, Olina Chau, Adriel Saporta, Aahlad Puli, Rajesh Ranganath, Andrew C. Miller. Learning Invariant Representations with Missing Data (full version). Conference paper @ CLeaR (Causal Learning and Reasoning) 2022.

Mark Goldstein, Jörn-Henrik Jacobsen, Olina Chau, Adriel Saporta, Aahlad Puli, Rajesh Ranganath, Andrew C. Miller. Learning Invariant Representations with Missing Data. DistShift Workshop @ NeurIPS 2021.

Mark Goldstein, Xintian Han, Aahlad Manas Puli, Thomas Wies, Adler J. Perotte, Rajesh Ranganath. Inverse-Weighted Survival Games. Conference paper @ NeurIPS 2021.

Lily H. Zhang, Mark Goldstein, Rajesh Ranganath. Understanding Failures in Out-of-Distribution Detection with Deep Generative Models. Conference paper @ ICML 2021.

Lily H. Zhang, Mark Goldstein, Rajesh Ranganath. Understanding Out-of-Distribution Detection with Deep Generative Models. RobustML Workshop @ ICLR 2021.

Mark Goldstein, Xintian Han, Aahlad Manas Puli, Adler J. Perotte, Rajesh Ranganath. X-CAL: Explicit Calibration for Survival Analysis. Conference paper @ NeurIPS 2020.

Thomas Pasquier, Xueyuan Han, Mark Goldstein, Thomas Moyer, David Eyers, Margo Seltzer, Jean Bacon. Practical Whole-System Provenance Capture. Proceedings of the ACM Symposium on Cloud Computing (SoCC) 2017.

Xueyuan Han, Thomas Pasquier, Tanvi Ranjan, Mark Goldstein, Margo Seltzer. FRAPpuccino: Fault-detection through Runtime Analysis of Provenance. HotCloud Workshop @ USENIX ATC 2017.

Thomas Pasquier, Xueyuan Han, Mark Goldstein, Margo Seltzer, David Eyers, Jean Bacon. *Practical Provenance Capture in the Linux Operating System.* Poster at USENIX ATC. 2017.

MISC

Coding Experience: Python (PyTorch, etc).

REVIEWING

Since 2020, I have been reviewing for machine learning conferences such as NeurIPS, AISTATS, ICML, AAAI, ICLR, CLeaR, and miscellaneous workshops at these conferences.

REFERENCES

1. Rajesh Ranganath, NYU Courant, rajeshr@cims.nyu.edu **2**. Finale Doshi-Velez, Harvard CS, finale@seas.harvard.edu.