Benjamin Laufer

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Education

- **Princeton University** — Princeton, NJ
  B.S. in Engineering, Operations Research and Financial Engineering, Cum Laude — *2015 – 2019*
  - **Minors**: Urban Studies, Environmental Studies
  - **Senior Thesis**: Compounding Injustice: History and Prediction in Carceral Decision-Making
- **Hunter College High School** — New York, NY
  High School Diploma — *2011 – 2015*

Grants and Fellowships

- **Fulbright ETA Fellowship, Laos**: 1 year full support (2019; declined)
- **Princeton SEAS Research Fund**: Funding for senior thesis research (2018-2019)
- **Parkhurst Research Fund**: Funding for senior thesis research (2018-2019)
- **Yale Law School Arthur Liman Fellowship**: Award for a summer internship in the public interest and colloquium attendance (2018) [link1, link2]
- **Princeton SEAS Research Fund**: Funding for junior independent research (2018)
- **Princeton Environmental Institute Fellowship**: Award for environmental research (2017) [link]
- **Princeton International Internship Program**: Award for international summer research (2016)

Honors

- **Lime Hackathon Winner**: 1st place prize in Lime's annual company-wide hackathon. Project entitled "Head First: Real-Time Helmet Detector using Computer Vision" (2020)
- **Best Senior Thesis in Urban Studies**: Princeton Urban Studies department thesis prize (2019) [link1, link2]
- **Kenneth H. Condit Graduation Prize**: Awarded to a graduating senior at Princeton who has exhibited excellence in leadership, academic achievement and community service (2019) [link]
- **Departmental Distinction**: Graduated *Cum Laude*, Princeton ORFE (2019)
- **Sigma Xi**: Nominated to the Scientific Research Honors Society upon graduating (2019)
- **IBM "Ponder This" Math Challenge**: Published list of monthly math challenge solvers by IBM (July 2018) [link]

Papers

- **NeurIPS 2020 workshop paper accepted**: Benjamin Laufer. "Abandoning Criminal Risk and Recidivism: On Dangerous Goals in ML Scoring-Decision Systems." *NeurIPS Resistance AI Workshop*, 2020.
- **FAccT 2021 conference paper under review**: Benjamin Laufer. "Beyond Validity: Current Auditing Methods for Criminal Risk Assessments Do Not Consider Sequential Feedback Effects". *FAccT*, 2021.
- **Working paper**: Benjamin Laufer. "Feedback Effects in Repeat-Use Algorithmic Risk Assessments". *ArXiv*, November 2020.
- **Working paper**: Benjamin Laufer & Dounan Tang. "ROI-based Task Optimization for High-Frequency E-Scooter Fleet Operations".
- **Undergraduate Thesis**: Benjamin Laufer. "Compounding Injustice: History and Prediction in Carceral Decision-Making". *ArXiv*, *Princeton Mudd Manuscript Library*, April 2019.
- **Junior Research Paper**: Benjamin Laufer. "Data Analytics and Machine Learning for Environmental Protection: Targeting Air Inspections". *Princeton ORFE*, January 2018.

Talks

- **NeurIPS**: Workshop on Resistance AI, December 2020. [event]
- **Princeton ORFE Department**: Invited lecture on algorithmic fairness in ORF473-FinTech Lending (prof: Margaret Holen), May 2020.
- **Princeton Reunions**: "Princeton in Prison: The Petey Greene Tutors" Panel, June 2019.
- **Princeton Urban Studies Department**: Research Symposium, May 2019. [link]
- **High Meadows Environmental Institute**: Research Symposium, April 2019.
- **Yale Law Public Interest Colloquium**: Invited as a fellow, April 2018. [event]

Work Experience

- **Lime** — San Francisco, CA
  Data Scientist II (prev. Data Scientist, Data Analyst Intern) — *January 2019 - Present (total 1 year 6 months)*
  - **Fleet Charging and Re-balancing Dynamics**: Developed the algorithmic logic behind vehicle charging and re-balancing - optimally moving scooters from low-potential states (low battery, low-demand area) to high-performance continuously throughout the day.
  - **Demand Forecasting**: On a team of 3 data science researchers forecasting demand and optimal deployment locations for Lime's 100,000+ small-vehicle fleet.
  - **Automated Experiment Pipeline**: Built Lime's automated experimentation pipeline. Engineers and product managers can launch features in a randomized A/B test, and see the relevant statistical tests and estimated treatment effects.
- **National Center for Access to Justice** — New York, NY
  Arthur Liman Research Fellow, Yale Law School — *Jun 2018 - Aug 2018 (3 months)*
  - **Data for Civil Court Accountability**: Developed data insights and continuous metric-tracking to hold civil courts accountable and help low-income and disadvantaged people access representation.
  - **CLARO Program**: Volunteered in Bronx civil court to help unrepresented litigants in debt cases.
- **U.S. Environmental Protection Agency (EPA)** — New York, NY
  Data Science Intern — *Jun 2017 - Jan 2018 (8 months)*
  - **ML for Allocating Inspectors**: Developed ML model to optimize inspections strategy. Successfully implemented the strategy in New York and New Jersey.
  - **Extended Independent Research**: Continued to work on a joint collaboration between EPA and Princeton ORFE department on the allocation problem, under Professor Robert Vanderbei.
- **Princeton Plasma Physics Laboratory (PPPL)** — Princeton, NJ
  Research Assistant — *Oct 2016 - May 2017 (8 months)*
  - **Nuclear Fusion Research**: Paid research assistant under Dr. Masaaki Yamada. Worked with NASA's Magnetospheric Multiscale (MMS) spacecraft data to study Magnetic Reconnection.
- **International Water Management Institute** — Accra, Ghana
  Intern — *Jun 2016 - Aug 2016 (3 months)*
  - **Recipient**: Princeton International Internship Program Award for research on water management and policy in Ghana.
- **Princeton High School Debate Team** — Princeton, New Jersey
  Private Debate Coach — *September 2015 - June 2016 (10 months)*
- **National Symposium for Debate** — Minneapolis, Minnesota
  Debate Teacher — *Jul 2015 - Aug 2015 (2 months)*

Freelance Consulting

- **Deputy Data Director for a Democratic Presidential Primary Campaign (3 months)**: Developed the strategy for allocating field organizers and targeting phone calls to effectively gain electoral votes.
- **Research for Lightspeed Venture Partners (2 months)**: Designed and executed a research report for a venture capital company on the impact of COVID-19 on work and changes to companies' IT needs.

Volunteer Experience

- **UCLA COVID Behind Bars Research Group** — Los Angeles, CA
  Data Science Researcher — *Jul 2020 - Present (5 months)*
  - **Data reporting for COVID-19 cases in ICE detention facilities**: Creating a single location for COVID-19 case and death counts in ICE facilities.
  - **Transfer Project**: Using causal inference methods to determine whether ICE's transfer strategy for COVID patients helps spread the disease.
- **Petey Greene Program** — Princeton, NJ
  Tutor and Undergraduate President — *2016 - 2019 (4 years)*
  - **Bringing Education into Prisons**: Tutored inside NJ correctional facilities weekly for four years.
  - **Undergraduate President**: Led the team of 100+ tutors and organized educational programs and trainings for tutors.

Technical Projects

- **Portfolio**: https://bendlaufer.github.io/projects.html

Programming Skills

- **Languages**: Python, SQL, MATLAB, R, Java, C, html, CSS, JS, STATA
- **Technologies**: AWS, Sagemaker, React, Tableau

Art

- **Media**: Oil painting, pottery, drawing, photography, embroidery, code
- **Portfolio**: Available upon request.

References

- **Miklos Racz, Assistant Professor, ORFE, Princeton**: mracz [at] princeton.edu
- **Robert Vanderbei, Professor, ORFE, Princeton**: rvdb [at] princeton.edu
- **Eduardo Morales, Professor, Economics, Princeton**: ecmorales [at] princeton.edu
- **Thomas Y Levin, Professor, German, Princeton**: tylevin [at] princeton.edu