

Michael Fine

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WORK EXPERIENCE

Tumult Labs

Senior Software Engineer (2022-2023)

- Lead design and implementation of new product to allow users to interactively optimize accuracy of differentially private queries
- Researched algorithms to automatically, privately choose parameters for private queries

Apple

ML Privacy Research Engineer (2020-2022)

- Developed libraries for implementing differential privacy at scale for statistical queries and machine learning across Apple.
- Researched novel algorithms to improve accuracy and performance of differentially private deployments by orders of magnitude

Two Sigma

Developer Intern (Summer 2019)

- Used Py4j and Apache Arrow to create a Python bridge to the Java-based Security Master database, enabling intuitive, performant access to trading data from a Python environment

Uber Advanced Technologies Group

Developer Intern (Summer 2018)

- Developed remote IDE to allow for stateless, seamless development and testing of vehicle software at scale

Hillary for America

Software Engineer and Team Lead (2015)

- Created internal fundraising tool that tracked and raised over \$150,000 in donations
- Developed tool to easily hotswap images in emails after delivery; application was used to give live updates to over 3 million recipients
- Helped migrate ad-hoc dataflow infrastructure to Apache Airflow

NGP VAN

Developer Intern (Summer 2014)

EDUCATION

Harvard University

(2016 – 2020)

A.B. Candidate in Computer Science, May 2020, GPA 3.72

- **Selected Coursework:** Data Structures and Algorithms; Compilers; Theory of Computation; Differential Privacy; Systems Programming; Abstraction and Design in Computation; Discrete Math; Electrical Engineering; Law for Algorithms
- **Thesis:** *Certifiably Accurate Private Data Release with Generative Adversarial Networks*. Advised by Prof. Salil Vadhan. Awarded High Honors

TECHNICAL SKILLS

Languages: Python, Scala, Javascript/Typescript, Haskell, OCaml

Libraries: PyTorch, NumPy, React, Pandas, Flask

Data: Spark, Postgres, Vertica, Neo4j

INTERESTS

Cooking: Completed a four week stage at two-Michelin star restaurant Pineapple & Pearls; Completed Ballymaloe Cookery School 12 Week course

Outdoors: Hiked Pacific Crest Trail, backcountry skiing, Eagle Scout