

# Michael Fine

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## WORK EXPERIENCE

### Apple

*ML Privacy Research Engineer* (2020-Present)

- 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)

- Helped create web application and graph database to aggregate user data from disparate internal websites and scrape social media to create targeted user profiles

## EDUCATION

### Harvard University

(2016 – Present)

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; Multivariable Calculus; Linear Algebra; Law for Algorithms
- **Thesis:** *Certifiably Accurate Private Data Release with Generative Adversarial Networks*. Advised by Prof. Salil Vadhan. Awarded High Honors
- **Activities:** Hasty Pudding Webmaster, Radcliffe Institute Research Partner

## 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