Alexander Williams

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Saint Paul, MN
Interested in relocation

Skills

- **Languages**: Javascript, Python **Technologies**: Node.js, GCP, noSQL, SQL, Firebase, Flask, React

Experience

- **BetterYou** ***award-winning high-growth wellness startup*** Saint Paul, MN
  Backend Software Engineer *Sep. 2020 – Present*
  - **Backend Scaling and Restructuring**: Expanding and refactoring a serverless, microservice Node.js GCP backend. Reduced costs in the highest traffic system by more than 97%. Transitioned half a dozen live user-facing systems from Firestore to Realtime Database with no downtime. Leading transition from legacy development workflow to a DevOps based monorepo branching model.
  - **Feature Development**: Built decentralized relational cross-platform multi-database social network using Cloud Tasks, PubSub and Firestore. Created business-facing data marts that reduced skilled, manual, mission-critical workload by 75%. Improved engagement with critical coaching feature by more than 20%.
  - **Data Systems**: Created ad-hoc Python and Jupyter notebook analyses for both business and data science teams. Built data pipelines informing live recommendation and coaching systems and internal tools to monitor user-base.
- **Valence Life Sciences** ***biotech venture capital fund*** New York City, NY
  Webmaster, Frontend Engineer (from May 2020) - part time contract *Apr. 2018 – Aug. 2020*
  - **Website Development & Maintenance**: Built websites in modern React. Reduced company hosting costs by 99%. Improved UI and used SEO to increase site traffic 300% over two years.
- **Northeastern University Mathematics Department** Boston, Massachusetts
  Algorithmic Researcher *Feb. 2019 – Jan. 2020*
  - **Research**: Studied high-dimension complex analytic singularities using Python, Sage MATH and Singular, leveraged operator-controlled Mersenne twister generation via a multistage stochastic Markov chain process. Decreased solving time in 3 - 5 dimensions from on average 10 minutes to 5 seconds, increasing sample size 10000x. Invented and deployed embarrassingly parallel algorithm on a centOS compute cluster.
- **Code for America, Boston Brigade** ***civic-tech organization*** Boston, Massachusetts
  Volunteer Data Analyst *Mar. 2019 – Apr. 2019*
  - **Data Analysis**: Worked with Environmental Protection Agency databases to analyze multi-billion point datasets in Python. Created data visualizations in Power BI to indicate trends and find emerging contaminants.

Education

- **Flatiron School** New York City, New York
  Full Stack Software Engineering *Nov. 2019 – Mar. 2020*
- **Northeastern University** London, UK and Boston, Massachusetts
  Computer Engineering, Math & Physics - 83 credits completed, dropped out. *Sep. 2018 – Apr. 2019*
- **Bard Queens** New York City, New York
  AA degree completed during high school. Took OOP and Python with Linear Algebra. *Sep. 2014 – Jul. 2018*

Projects

- **Cruze** New York City, NY
  Won 1st Place Health & Sustainability and Best Sports Hack at NYU's 184 person hackathon *Mar. 2020*
  - Algorithm to increase cyclist safety using weighted routes determined via infrastructure data from NYC Open Data with React frontend: Link to project page.
- **DirExit** Philadelphia, PA
  Won 1st Place and Best Data Analysis from Lockheed Martin at Drexel's 174 person hackathon *Feb. 2020*
  - Raspberry-pi emergency sign, intelligently routing evacuees to exits. Designed pathing with backtracking and lossy compression algorithms in Python: Link to project page.