

Industry Experience

Panorama Education / Senior Software Engineer

June 2013 - May 2019

Panorama builds data analytics tools for K-12 schools. I joined early on as the third engineering hire. Panorama now serves 9 million students and employs over 120 people.

I focused on backend web engineering, but also worked on frontend UI development, product design, product management, data science, and leading teams.

SELECTED PROJECTS

Free Response Analytics (2017): Built a text feedback analysis tool based on TF-IDF and clustering word embedding vectors. Created prototype and led team to ship to customers, contributing to 70% revenue growth for surveys product over the following 12 months.

Performance optimization (2016): Increased throughput of analytics application by 25x with minimal hardware increases, enabling successful launch for largest district in the US.

National Benchmarks (2015): Built a tool enabling users to compare their survey results against live-updating benchmarks from our national dataset of millions of responses.

Reporting interface (2013): Designed and implemented the entire data reporting interface as a solo project. Led major design iterations over next two years.

Education

MIT / PhD Student in Computer Science

August 2019 - present

In the Software Design Group with Daniel Jackson at CSAIL

Researching programming environments, including new debugging interfaces and extensions to spreadsheets for building interactive applications

Yale University / B.S. in EECS

August 2010 - May 2014

Distinction in EECS major, 3.77 GPA

Coursework in algorithms, databases, networks, discrete math, robotics, data analysis

RESEARCH PROJECTS

- Built sonar-based obstacle avoidance system for a quadcopter drone
- Made algorithm to scan objects with laser ranger, using 10x fewer scans than brute force
- Extended PostgreSQL with binary JSON encoding, showed up to 8x speedup on reads

Online courses

- Machine Learning, Coursera (completed Mar 2016)
- Deep Learning, Udacity (completed September 2016)

Research Publications

Margin Notes: Automatic code documentation with recorded examples from runtime.
Geoffrey Litt. LIVE workshop at ACM SPLASH, Nov 2018 (45% acceptance rate)

Skills and Interests

PROGRAMMING LANGUAGES

Proficient: Ruby, Javascript, SQL, HTML/CSS
Some experience: C, C++, Java, Python, Scala, R, MATLAB, Clojure

TECHNOLOGIES

PostgreSQL, Tensorflow, scikit-learn, Spark, Ruby on Rails, AWS S3/EC2/SQS/Redshift, UNIX utilities