

Brett Fouss

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Work Experience

August 2019–present
Cambridge, MA, US

HubSpot

Technical Lead (September 2021–present), Reporting Datasets

- Led a team of 4 engineers in delivering a new enterprise-tier data preparation product in 6 months—a top company initiative which has generated \$20 million in annual revenue
- Implemented a schema for data transformation, a new dataset builder app with a text-based formula editor, and the ability to create reports based on curated datasets
- Performed technical planning, team management, and coaching across a full-stack team

Senior Software Engineer (December 2020–September 2021), Report Builder

- Released new SQL-powered report builder, a top 3 company-wide priority that year
- Created improved algorithms and React UIs for data selection in app, enabling the addition of 25+ new data sources while maintaining a user-friendly experience
- Designed new report schema for mapping visual chart requirements to SQL queries
- Implemented improved drag-and-drop interactions, a scalable report validation framework, and a refresh/caching system for report data

Software Engineer (August 2019–December 2020), Reporting Platform Front-End

- Improved charting and report data processing library used by teams across HubSpot
- Led large-scale migration of feedback report data involving several teams

July 2017–August 2019
Lexington, MA, US

MIT Lincoln Laboratory

Cyber Visualization Developer, Cyber Operations and Analysis Technology

- Conducted full-stack development of custom visual analytics systems for US Department of Defense cyber security operations such as risk assessment and cyber sensemaking
- Rapidly prototyped 5+ web apps with React and D3.js front-ends and Python back-ends
- Performed human-centered design studies and tool evaluations with analysts

May–August 2016
Lexington, MA, US

MIT Lincoln Laboratory

Summer Research Intern, Cyber Systems and Operations

- Developed interactive force-directed graph visualization tool using D3.js for visualizing cyber network topology and mapping to high-level operational mission

Education

August 2013–May 2017
Medford, MA, US

Tufts University, School of Engineering

- Bachelor of Science in Computer Science—Magna Cum Laude, Dean's List
- Received David W. Krumme Award for Experimental Computer Science
- Minor in Chinese

Skills & Portfolio

Languages JavaScript, TypeScript, HTML, CSS, Python, C++, C

Libraries & Tools React, Redux, D3.js, Angular, Webpack, Node.js, NPM, Git, Pandas, Tableau

- Research Publications**
- *PunyVis: A Visual Analytics Approach for Identifying Homograph Phishing Attacks*, IEEE Symposium for Visualization in Cyber Security, October 2019
 - *NetSet: A Set Visualization Tool for Network Metadata Exploration and Threat Hunting*, IEEE Symposium for Visualization in Cyber Security, October 2018

- Projects**
- Co-founded Tufts JumboCode, a student-led organization that develops software at no charge for nonprofits such as the Peace Corps, in May 2015
 - *The Flavor Map*, analyzing ingredient pairings and properties through force simulation and graph visualization—see food.tools
 - *Visualizing the Chinese Language*, examining properties of Chinese characters and words through interactive visualizations—see brettfouss.com/chinese-vis