

David Brackbill

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Experience

Software Engineer

September 2022 - September 2023

Symbium

- Built suite of geospatial data processing pipelines in Python and Postgres using real-time, lazy processing, creating scalable systems for cataloging semi-structured data
- Collaborated with product teams to deliver full-stack applications in Python, JavaScript, CSS and HTML
- Developed machine learning algorithms for automated geospatial data validation and normalization, applying statistical computing methods to improve data quality for location-based datasets
- Owned high-performance backend APIs with comprehensive monitoring, implementing async patterns and numerical optimization techniques that improved response times and system reliability

Data Engineering Intern

March 2022 - September 2022

Symbium

- Built Python monitoring tools for geospatial data systems, implementing proactive alerting and scientific computing approaches to identify data quality issues in location-based processing pipelines
- Optimized database query performance using Redis caching and SQL query optimization, significantly reducing API response times for client applications requesting real-time geographic and legal data

Education

Master of Science, Computer Science

June 2026

Georgia Institute of Technology

- **Coursework:** Real-time and Embedded Systems, Machine Learning, Distributed Computing

Bachelor of Science, Statistics & Data Science

December 2021

University of California, Santa Barbara

- **Coursework:** Numerical Methods, Statistical Computing, Time-Series Analysis, Machine Learning

Projects

OMSChecklist Full-Stack Development, JavaScript, CSS, HTML, Svelte

- Interactive course planner for 10K+ Georgia Tech OMSCS students, aggregating review data from multiple sources and enabling semester planning across 6 degree tracks

Bayesian Basketball Machine Learning, Statistical Modeling, Python

- Bayesian statistical model processing 30+ seasons of NBA data, achieving 96% confidence intervals in player skill forecasting and enabling real-time analysis of 450+ active players

Technical Skills

Systems Programming: Rust, C++, Real-time and Embedded Systems, Optimization

Data Engineering: Python, Geospatial Data Processing, QGIS, ESRI, Statistical Computing

Web Development: JavaScript, Node.js, React, FastAPI

Infrastructure: Linux, AWS, Docker, CI/CD, Monitoring, Postgres, Redis