

Sam Matthews

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Backend Software Engineer and Technical Lead with 10 years of experience designing and maintaining HTTP infrastructure, high performance Node.js APIs, and Python data pipelines. Focused on building tools to help teammates be more productive, simplify complex workflows, and bring a keen eye toward debugging, service observability, and fostering friendly teams.

Work Experience

Staff Software Engineer, Mapbox (2021 - Present)

- Technical lead for a 20+ engineer team across European and North American time zones, focused on building and supporting `api.mapbox.com`, which serves billions of requests per day on AWS.
- Design, architect, and plan cross-team initiatives that influence the Maps product and innovate for our customers. Write and guide teammates through technical design reviews and provide feedback to ensure consistency and quality across a broad codebase of Typescript, Node.js, Python, and C++.
- Modernized an outdated and scattered access model into a central, internal gRPC service for all public access token authentication and authorization to `api.mapbox.com`, relied upon by more than 40 services across 10 engineering teams.
- Achieved >99.9% uptime by defining weekly SLOs for 15 publicly-available APIs, monitoring error rates, latency, and cost trends to help prioritize improvements to the service for our customers.
- Manage SRE systems for the team including alarm infrastructure, on-call rotation, and playbooks for responding to and mitigating incidents, all while prioritizing teammate health and wellbeing.
- Author and contribute to open source specifications and libraries surrounding the Mapbox Vector Tile format, the most widely used format for vector-based maps.

Senior Software Engineer, Mapbox (2016 - 2021)

- Design, launch, and maintain the Mapbox Tiling Service, a spatial data pipeline built with Python, Node.js, and Apache Spark for creating maps at scale, including the public SDK & CLI, and billing infrastructure for tracking customer usage and bills.
- Convert original API monorepo and HTTP server at Mapbox to separate microservices to account for continual traffic growth and diverse scaling needs while maintaining consistent patterns to allow engineers to work seamlessly between different codebases.
- Improve CPU-bound application performance by moving single-threaded Node.js functions into multi-threaded C++ addons and build reusable pipelines for delivering prebuilt binaries across various operating system architectures and Node.js versions.

Software Engineer, Code for America (2015 - 2016)

- 1-year fellowship with the city of Richmond, VA's Department of Health; full-stack engineer prototyping tools for health clinics to effectively and securely share sensitive health data across locations.

- Built the Federal Poverty Level API to distribute federal annual income requirements to any requesting application

Web Developer, Creative Media Alliance (2013 - 2015)

- Designed and built custom Wordpress websites for various Healthcare and Architecture clients, writing custom PHP plugins and JavaScript libraries to enable content editing by marketing departments.
- Meet with clients to help them effectively represent their brand online across their website, social media outlets, and email campaigns.

Skills

Languages	Node.js, Typescript, SQL, Python, C++, Rust, Bash/Shell
Providers	AWS, Heroku, Vercel, GitHub Pages
Databases	DynamoDB, Postgres, Redis, MySQL, RDS, MongoDB, Memcached
Frameworks	React, Vite, Next.js, Airflow, Apache Spark
Misc. tools	Docker, git, GitHub Actions, Next.js, gRPC, Express.js, cURL, Pagerduty

Education

University of Wisconsin, Madison (2007 - 2012)

Bachelor of Science, Conservation Biology

Bachelor of Science, Environmental Geography

Certificate, Geographic Information Systems