Michael Vuolo

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Technical Skills

Languages: TypeScript, HCL, HTML, CSS, Python, LaTeX, Java, Go, Kotlin, C, C#, C++
Frameworks: Next.js, React, Express, Redis, PostgresSQL, AWS ECS (Fargate), DynamoDB, MinIO
Developer Tools: Docker, Git, GitHub Actions, Datadog, Jira, Linear, ESLint, Prettier, GCP, Azure DevOps
Libraries: tRPC, Tailwind CSS, Zod, Prisma, Auth.js, LRUCache, Puppeteer, i18n, Places API, chromedp, openai

Experience

Full-stack Software Engineer Feb. 2024 – Present
Tilli Software *McLean, VA*

- Built and maintained multi-tenant financial web applications for enterprise clients across various sectors, supporting custom workflows, real-time integrations, and tenant-specific behavior at scale.
- Integrated with SAP and Oracle CC&B ERP systems to enable two-way real-time data synchronization for billing, account management, and transactional operations across client platforms (while adhering to PCI DSS compliance).
- Designed and deployed cloud-native infrastructure using Terraform, Docker, and AWS ECS (Fargate), managing full deployment lifecycle across Dev → QA → Staging → Production environments.
- Developed robust CI/CD pipelines with GitHub Actions (+ HashiCorp Vault & OIDC authentication), enabling environment-specific deployments, dynamic PR workflows, test matrix execution, and infrastructure validations.
- Led implementation of automated testing strategies using Playwright and Jest, integrated directly into the CI/CD pipeline to ensure regression-free releases and production reliability.
- Enhanced company-wide observability with a full integration to Datadog for monitoring, log tracing, and alerting.

Full-stack Software Engineer, Fellowship June 2023 – Aug. 2023
National Security Innovation Network (NSIN), Air Force Research Laboratory (AFRL) *Wright-Patterson AFB, OH*

- Spearheaded a team of 4 full-time fellows throughout the conceptualization, development, and execution of a web application designed to streamline management and tracking of the AFRL's device fabrication processes.
- Successfully installed the application on 300+ AFRL workstations, improving device fabrication process efficiencies.
- Leveraged React, TypeScript, PostgreSQL, Next.js, tRPC, and MinIO among other technologies to craft front-end and back-end modules of the application while spending 8+ work hours daily coding.
- Proactively identified and overcame unique installation challenges for deploying software on the secure, web-less OPTONET network, utilizing MinIO object storage technology to optimize data handling in an offline environment.
- Instigated vital real-time tracking for lab processes, including inventory control, sample tracking, equipment maintenance, and task allocation (projecting significant savings in man-hours).

Projects

USAF Project Management Dashboard | *Next.js, TypeScript, React, tRPC, MySQL* Jan. 2023 – Dec. 2023

- Led a 5-person team in developing a project (financial contract) management dashboard for the U.S. Air Force.
- Modernized the project's codebase by transitioning from the less supported React Router (in JavaScript) to the more robust and widely-used Next.js framework (in TypeScript), boosting code quality and maintainability.

Clever Doc | *Next.js, TypeScript, React, tRPC, PostgreSQL, GPT-4V(ision), Plaid API* Oct. 2022 – Aug. 2023

- Led the development of Clever Doc, integrating GPT-4V and advanced parsing techniques to revolutionize CPA accounting, achieving an average 3x increase in transaction coding speed with accurate, tailored categorization.
- Engineered a user-focused interface with intuitive navigation and seamless bank integration, enriched with features like bulk override and customizable rules, effectively addressing diverse industry requirements.

Resell Monster, LLC | *Electron, Go, Node.js, Laravel Broadcasting (& Echo), Puppeteer* May 2018 – Aug. 2020

- Developed a highly efficient and advanced web scraper using Golang, chromedp, and fasthttp, capable of scraping over 200 stores and 50 Twitter and Instagram accounts per second with proxy rotation (residential & datacenter).
- Spearheaded a small-scale innovative software toolset that automated the purchasing of limited "hype" items online including sneakers, shirts, hoodies, etc. with an all-time average of 14.74 seconds per checkout from release time.
- Wrote production-ready code in modern front-end (Node.js & Electron) and back-end (Go & C#) frameworks for over 3,500 active free-trial users - with a peak of 13 users paying $15 monthly for additional services and monitors.

Education

University of Central Florida Aug. 2020 – Dec. 2023
Bachelor of Science in Computer Science *Orlando, FL*

- 3.713 GPA, President's Honor Roll (x2), Dean's List (x4), Florida Bright Futures Academic Scholar