

# Alastor Curns

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## INTRODUCTION

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Software engineer with 9+ years building production systems, from junior engineer to lead and principal. Architected and shipped the company's modern core products in a Node.js/TypeScript stack, with an emphasis on immutability, concurrency, and pragmatic design. Comfortable across the stack and in multiple languages (TypeScript, Python, Java, Scala), from optimizing a polling backend to designing a DSL or building complex data visualizations.

## EXPERIENCE

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- CodeMettle** Atlanta, GA  
**Principal Engineer** 2023 - Present
- **Technical Direction:** Serve as the senior technical authority for a team of 5 engineers, setting architecture, standards, and the technical roadmap while staying hands-on in the core TypeScript codebase.
  - **AI Tooling:** Drove adoption of AI-assisted, test-driven development (Claude Code, MCP servers, custom skills), halving ticket-to-PR time and raising test coverage from 60% to 90% while keeping delivery on pace. Moved code review and e2e testing into CI, and brought the full team onto AI tooling within 3 months.
- Lead Software Engineer** 2020 - 2023
- **Modernization:** Led the rewrite of the legacy Java/Play application into a modern Node.js/TypeScript backend and frontend, porting over every service and feature.
  - **Build:** Architected and shipped full-stack features and contributed to roadmap and system design with product. Maintained a Scala/Java polling service. Designed complex graph structures, concurrency, and reusable patterns.
  - **Mentor:** Authored onboarding documentation and mentored new engineers, cutting onboarding time from roughly one week to 1-3 days.
- Systems Engineer** 2017-2020
- **Fullstack Environment:** Built services, backend logic, APIs, and visualizations across multiple stacks under tight deadlines. Bridged product, design, integrators, and end users as the engineering point of contact.
  - **Travel (~30%):** Visited global customer sites to prototype, demonstrate features, and serve as the engineering subject-matter expert.
- Project Engineer** August 2016-2017
- **Project Lead:** Deployed production-ready systems to customers while leading a team of 3-5 developers.
  - **Hardware Integration:** Translated live satellite-infrastructure data into well-defined databases in Python.

## PROJECTS

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- Polling Backend:** Architected asynchronous subprocesses in a Node.js backend to ingest device data across protocols (SSH, SNMP, HTTP, streaming, serial, TCP, UDP, and WebSocket), scaling from 10-50 devices (hundreds of changes/sec) to ~500 devices (thousands of changes/sec) in production.
- Flows:** Developed a domain-specific language and event-driven architecture that let users define secure polls, data transformation/validation, and rules.
- Data Visualizations:** Built geographical and logical network graphs (D3, MapBox, cytoscape.js, React Flow) rendering hundreds of nodes/edges across 4-5 datasources: tx/rx, alarms, OSPF/BGP changes, and geospatial. Wrote Grafana datasource plugins for Apache Solr and MongoDB.
- Network Infrastructure:** Created Cisco IOS and Juniper configurations and automation to manage the office network stack and stand up test scenarios for QA.
- FIPS:** Built an optional FIPS-compliant mode enforcing BouncyCastle in Java and compiling Node and Go binaries against FIPS crypto chains.

## SKILLS

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- Languages & Libraries:** TypeScript, Python, Java, Bash, C, HTML/CSS/JS, Effect-TS, Express, Vite, Gulp
- Technologies & Frameworks:** Node.js, React, Jest, SNMP, Linux, OpenAPI, REST, MongoDB, MUI, Docker, Electron
- Methods:** Git, Neovim, Agile, OOP, Functional/Immutable patterns, CI/CD, Claude Code, Snyk, Trivy, Obsidian, Monorepo

## EDUCATION

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- Georgia State University** Atlanta, GA  
*Bachelor of Science in Computer Science; Dean's List; GPA: 3.43* *Graduated May 2015*