Cameron Nicholas Pool

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SUMMARY

Full-stack TypeScript engineer with production experience building Node.js/Express APIs and Next.js/React/Vue 3 frontends across SBIR defense contracts, from initial architecture design through deployment.

EXPERIENCE

Junior Software Engineer Feb 2025 – Present

KBSI · Defense / Government R&D (SBIR)

Digital Data Visualization Platform

- Rebuilt the legacy JS/MongoDB application from scratch in TypeScript, introducing Vue 3 Composition API, a shared types directory between client and server, and migrated the data layer to Neo4j with support for ontology file (.ttl) uploads and graph visualization.
- Implemented a custom D3.js force-directed graph that consumes Neo4j query results, mapping graph database records to interactive browser visualizations.
- Designed and implemented the Express REST API and Neo4j/Cypher data model to support complex relationship queries across the knowledge graph.
- Built the Docker Compose stack containerizing the Vue client, Express API, Nginx reverse proxy, and Neo4j database, using Docker volumes to persist Neo4j data and Cypher scripts to seed it on startup.
- Secured the application with dual authentication supporting CAC/PKI and username-password login. Nginx mTLS validates client certificates against the DoD CA chain and forwards identity headers to the Express API. Standard login uses Bcrypt password hashing with JWT tokens encoding user roles, enforced via middleware on all protected routes to restrict access based on permission level.

AI-Assisted Form & Chat Application

- Took over as the sole frontend engineer on an existing Next.js App Router codebase and owned all feature development, component architecture, and state management decisions from that point forward.
- Implemented NextAuth middleware to enforce route protection across all authenticated pages, preventing unauthenticated access where none previously existed.
- Redesigned form field interactions from static read-only display to fully editable inputs, with a modal-based editor for fields backed by complex objects rather than plain strings.
- Replaced manual answer entry in the AI chat where users had to retype the AI's suggested response options into the text box and hit send, with clickable response buttons that submit instantly on selection, show a check confirmation, and lock out previous message options once the conversation moves forward.
- Built a parts selection system in a dedicated tab where users click to queue multiple parts as context, see them as removable chips above the text input, and send them appended to their prompt in a single message.
- Patched CVE-2025-55182 within hours of public disclosure by upgrading Next.js to 15.2.6, a critical RCE vulnerability with a CVSS score of 10.0 affecting all Next.js 15 and 16 deployments.

TECHNICAL SKILLS

Core: TypeScript, JavaScript, Node.js, Python
Frontend: Vue 3, Next.js, React, D3.js, HTML, CSS, Tailwind, ShadCN
Backend: Express, Node.js, REST API Design, Drizzle, Prisma, Bun, Kysely
Databases: Neo4j / Cypher, PostgreSQL, MySQL, MongoDB
DevOps & Infrastructure: Docker, Docker Compose, Nginx, Linux, Git, TFS, Bash
Authentication: CAC Card, JWT, BcryptJS, 2FA

EDUCATION

Bachelor of Arts · Minor in Computer Science · Minor in Exercise Science 2024
Oklahoma Baptist University · Shawnee, OK

Associate of Computer Science 2022
Murray State College · Tishomingo, OK