Greer Viau

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Experience

Senior Software Engineer | Matterworks - AI metabolomics platform Jul 2024 - Present

- One of the first three software engineers. Helped grow the team to 10 engineers, mentored co-ops, led design reviews for backend infrastructure and training-data architecture, and served on the on-call rotation.
- Led the rebuild of a ~100-endpoint backend onto FastAPI, cutting p95 API latency in half and reducing incidents caused by traffic spikes. Managed the AWS infrastructure in Terraform.
- Led the frontend migration from a buggy, hard-to-maintain Angular app to TypeScript React on Material UI, with a reusable component library that cut delivery time for new features from weeks to days.
- Cut CI/CD build and deploy time from over 1 hour to under 10 minutes. Helped add Playwright integration tests and pre-deploy validation, taking production deployments from every few days to multiple times per day.
- Replaced queue-based LC-MS sample processing and model inference with parallel AWS Step Functions pipelines, cutting down processing times for thousands of customer samples from hours to minutes.
- Built the training-data featurization stack: an AWS Glue XIC pipeline (days to hours, 25x faster per sample) and a Metaflow framework on Argo Workflows for researcher-defined featurization that would process millions of samples into custom training datasets in hours.
- Designed a binary training-data format for terabyte-scale datasets, cutting storage costs by 80% and per-epoch training time by 35%.

Software Engineer | American Robotics - autonomous drone-in-a-box systems May 2022 - Jan 2023

- Built the Flask and FastAPI cloud APIs connecting frontend applications to the robotic systems.
- Developed robotics software in Python, C, and C++, including the Drone Station's state-driven takeoff, landing, and payload-offloading controls.
- Redesigned the imagery-only ML data pipeline into a modular one so the new hot-swappable payload platform could process infrared, lidar, and metadata alongside full-spectrum imagery.

Full Stack Software Engineer | Odyssey Systems - defense contractor Mar 2020 - Feb 2022

- Held a Secret level US security clearance.
- Built mission management software used by over a dozen U.S. military units to coordinate across chains of command, with a C#/.NET Core REST API and React frontend deployed on SIPRNet.
- Designed the Janus and WebRTC live video infrastructure for monitoring and controlling military payloads at under 300 ms latency, with video-on-demand archiving.
- Built frontend controls for full-scale UAV MTS-B camera systems and real-time worldwide aircraft and vessel tracking from ADS-B and AIS feeds.

Projects

Phonetica AI | phonetica.ai

- Turned a personal language learning product into a paid AI subscription app for 42 languages with over 100 users. It generates spaced-repetition flashcards with natural audio in seconds, plus reading stories built from each learner's vocabulary.
- React, FastAPI, and PostgreSQL on DigitalOcean, with OpenAI for content generation and SpeechGen.io for speech.

Education

B.S. Computer Science, minor in Mathematics | Salem State University 2020

Concentration in Artificial Intelligence & Robotics