

Profile

Hands-on AI engineering leader who builds and scales LLM and knowledge-graph systems, scientific software, and data platforms for genomics, biotech, and drug discovery. Experienced leading multidisciplinary engineering teams while contributing directly to architecture, implementation, evaluation, and production delivery.

Experience

Director of AI Engineering, Genomenon; *May 2024 to Present — Remote*

- Lead teams of up to 8 software engineers in developing and deploying **AI/ML products for Genomenon's genomics intelligence platform**.
- Developed an agent-driven language model optimization workflow for genomic evidence extraction, improving entity recognition recall **by 30 percentage points over the internal baseline**.
- Implemented process improvements and AI-assisted software engineering practices, reducing median work-item cycle time **by 86%, from 14 to 2 business days, within six months of rollout**.
- Lead development of **G3, the Genomenon Genomic Graph**, an **LLM-driven named entity recognition workflow** extracting structured evidence from a 10+ million-document corpus.
- Implement a system for **knowledge-graph** creation and curation to drive **RAG-based AI workflows and products**.
- Develop methods to detect hallucinated or low-confidence AI-generated text, improving trust, quality, and reliability of scientific outputs.
- Contributed to Genomenon's 2025 colon cancer patient case study presented at the **ACMG 2025 Annual Clinical Genetics Meeting**, helping generate 10+ prospective pharmaceutical sales leads.
- Delivered Genomenon's first G3 **Real World Evidence** dataset to a pharmaceutical customer: a comprehensive patient landscape for a rare disease target aligned to customer needs and treatment strategy.
- Deploy full-stack applications for data entry and curation, facilitating the migration from spreadsheets to structured databases.

Technologies: Python, JavaScript, PostgreSQL, Dagster, Hugging Face, OpenAI, Mistral, PyTorch, Docker, Appsmith, AWS

Principal Engineer, Systemic Bio; *August 2023 to May 2024 — Houston, TX*

- Served as a hands-on principal engineer across software, automation, infrastructure, and AI/ML objectives for an interdisciplinary biotech R&D organization.
- Initiated and executed an AI/ML proof-of-concept using **in vitro h-VIOS platform** data from 3D-printed vascularized organ models for **predictive toxicology** and **target discovery**.
- Embedded with a multidisciplinary project team across biology, bioengineering, biomaterials, and operations to execute in vitro experiments and acquire confocal microscopy and sequencing data to support AI/ML projects.

- Implemented bioinformatics analysis pipelines for generating **gene expression profiles** and **differential gene expression analyses**, deployed them in a hybrid-cloud data center, and migrated them to an on-premises bare-metal server.
- Implemented an internal **laboratory information management system** (LIMS) to promote traceability and quality of scaffold production, biological experimentation, data acquisition, and eventual ML model training.
- Delivered an internal inventory and item-management application for 3D-printed parts and components.
- Developed operational capacity models through **discrete-event simulation** to support manufacturing and production planning.
- Investigated and developed tools for **automated defect detection** in 3D-printed cellular scaffold models via imaging/confocal microscopy.

Technologies: *Python, JavaScript, PostgreSQL, Litestar, Dagster, Scikit-Learn, SimPy, Docker, Appsmith*

Director of Software Engineering, Absci; May 2021 to August 2023 — Remote

- Led and mentored a multidisciplinary team consisting of 11 software engineers and scientists (4 full-stack engineers, 4 data engineers, 3 bioinformatics scientists) delivering mission-critical software to support Absci's laboratory and AI operations.
- Defined and executed the engineering vision by planning roadmaps, leading regular team meetings, and establishing engineering best practices.
- Spearheaded the development and deployment of the **Core Services Platform**, Absci's internal web application solution for delivering software solutions.
- Built and deployed an interactive web application demonstrating AI-enabled antibody affinity maturation, used for Absci's AI-driven drug discovery presentation at **ICML 2022**.
- Authored and published an internal **software development kit** (SDK) providing a uniform, programmatic interface to internal and external services, including Benchling LIMS; the SDK was leveraged by the Software Engineering, Data Science, Bioinformatics, and AI teams for critical analysis pipelines and applications.
- Modernized critical bioinformatics analysis pipelines and deployed them in a modern orchestration framework using Airflow and SevenBridges, enabling seamless automated reporting for samples submitted to Absci's NGS instruments (5+ TB of data processed across 50,000+ samples and growing).
- Deployed production API services for interfacing with Absci's cutting-edge deep-learning models.

Technologies: *Python, JavaScript/TypeScript, PostgreSQL, FastAPI, SQLAlchemy, Vue, Airflow, AWS, Benchling, SevenBridges*

Senior Software Engineer, Team Lead, ScienceLogic; Nov 2019 to May 2021 — Remote

- Led a high-performing team of engineers in spearheading new UI initiatives for ScienceLogic's **SL1 Platform**, an AIOps and hybrid-cloud monitoring platform.

- Implemented new features and improvements to a public-facing GraphQL service and a legacy REST API.
- Identified and remediated critical security vulnerabilities through bug fixes and build process improvements.
- Integrated Common Access Card (CAC) authentication for a major initiative to attain Department of Defense software certification.
- Implemented an automated testing framework to validate impactful performance improvements to the Device Performance API delivered to ScienceLogic's marquee customer, Cisco.
- Proposed process improvements during sprint retrospectives that helped the team consistently complete over 80% of planned sprint commitments.
- Designated as a required reviewer for code changes made in my team's area of responsibility.

Technologies: JavaScript/TypeScript, PHP, Python 3, MySQL, Node.js, React, GraphQL

Software Engineer, Baker Hughes; May 2018 to Nov 2019 — New Orleans, LA

- Developed and deployed cloud-based web applications for the **Plant Operations Advisor** through GE Digital's Predix platform.
- Built modern user interfaces for viewing and interacting with data analytics and transitioned the UI from a legacy Polymer implementation to an Angular Material component library.
- Implemented critical database migration strategies to support new data models.
- Prototyped an event-driven framework for deploying analysis scripts via an orchestrated workflow system based on Celery and RabbitMQ.

Technologies: Java 8, Python 3, TypeScript, PostgreSQL, Spring, Angular 2+

Education

Baylor University

MSc in Computer Science — Waco, Texas

BSc in Bioinformatics — Waco, Texas