

Nathaniel Laughlin

Redwood City, CA | [linkedin.com/in/nathaniel-laughlin](https://www.linkedin.com/in/nathaniel-laughlin)

PROFESSIONAL SUMMARY

Senior Software Engineer with nearly two decades of experience architecting data systems for healthcare, clinical registries, and behavioral health platforms. Experience includes leading cloud migrations, optimizing data processing pipelines, and building secure, multi-tenant enterprise architectures compliant with HIPAA and CYBHI standards.

PROFESSIONAL EXPERIENCE

TadHealth | Newport Beach, CA (Remote) *Senior Software Engineer* | February 2025 – Present

- Architected and built a clinical enterprise application from the ground up using Node.js and React for student mental health services.
- Engineered a core state-reimbursement engine automating California's CYBHI fee-for-service claims process for healthcare providers.
- Designed secure multi-tenant data structures to handle sensitive student and clinical data under strict healthcare compliance guidelines.

Health Catalyst | Salt Lake City, UT (Remote) *Software Engineer* | April 2022 – January 2025

- Developed dynamic data entry applications for clinical registries to accelerate deployment timelines.
- Migrated clinical data from hundreds of hospital networks in compliance with HIPAA requirements.
- Built secure API services on enterprise multi-tenant frameworks, implementing role-based access controls (RBAC) and data isolation layers.
- Updated backend object-relational models using Java, Hibernate ORM, Groovy, PL/PostgreSQL, and JavaScript to support script transpilation across application layers.
- Managed application builds and minimized environmental drift using Docker and Kubernetes.
- Designed user-interface components using Angular and React for varying data types and cardinalities.
- Engineered PostgreSQL queries and processing pipelines to reduce compute resource consumption and enhance system observability.
- Designed and deployed backend automation workflows for customer support pipelines.
- Led weekly Agile sprint code reviews and managed isolated development via CI/CD pipelines using Jenkins, GitLab, and Python.
- Leveraged automated tools including Snyk and DataDog to mitigate software vulnerabilities and monitor production application performance.
- Maintained clean code standards supported by technical documentation, unit testing, and integration coverage using JUnit and Selenium.

ARMUS Corporation | San Mateo, CA (On-site) *Software Developer / Engineer* | June 2007 – April 2022

- Replaced monolithic servers with cloud-based architectures on Google Cloud Platform (GCP) to scale customer capacity and lower operational overhead.
- Orchestrated internal migrations involving millions of historical clinical records from legacy systems to modern database structures.
- Developed clinical registry applications, data entry validation logic, and a dynamic query reporting engine utilizing Adobe Flex, Java, Hibernate, and PostgreSQL.
- Implemented medical-device interfaces and data exchange streams utilizing HL7 messaging standards.

- Created a custom visual comparison tool for column-delimited files to replace manual validation workflows.
- Coordinated software certification and data submission procedures to state and national clinical quality-improvement consortiums.

Web Developer / Designer | June 2007 – 2009

- Managed design and maintenance of the corporate website, delivering wireframe layouts, digital documentation, and graphic renderings using 3dsMax.
- Integrated content management systems including WordPress, Drupal, and custom PHP.
- Managed client-facing web platforms and engineered a company site featuring integrated payment processing and image generation using PayPal, PIL, and PHP.

TECHNICAL SKILLS

- **Languages & Runtimes:** Node.js, Java, Python, Groovy, JavaScript, PL/PGSQL, PHP
- **Frameworks & Libraries:** React, Angular, Hibernate ORM, Flask, Django, SQLAlchemy
- **Cloud & DevOps:** AWS, Google Cloud Platform (GCP), Docker, Kubernetes, CI/CD (Jenkins, GitLab), Nginx, Tomcat
- **Data & Healthcare Systems:** PostgreSQL, HL7 Messaging, ActiveMQ, Multi-tenant Architecture, HIPAA Compliance, State Reimbursement Engines (CYBHI), X12
- **Testing & Observability:** DataDog, Snyk, Jest, JUnit, Selenium
- **Methodologies & Domains:** Artificial Intelligence (AI), Machine Learning (ML), Natural Language Processing (NLP), Deep Learning, Agile/Scrum, Enterprise Architecture

LICENSES & CERTIFICATIONS

- **Stanford University** | Artificial Intelligence Professional Certificate – May 2026
 - XCS224N: *Natural Language Processing with Deep Learning* (May 2026)
 - XCS229: *Machine Learning* (Feb 2026)
 - XCS221: *Artificial Intelligence: Principles and Techniques* (Oct 2025)

EDUCATION

University of California, Santa Cruz | Santa Cruz, CA *Bachelor of Science (B.S.), Chemistry* | 2002 – 2006

- **Thesis:** Investigated the application of gold nanoparticles for enhancing spectroscopic imaging.
- **Leadership:** Student Liaison for the International Living Center (ILC).

COMMUNITY LEADERSHIP & VOLUNTEERISM

Palo Alto Little League | Palo Alto, CA *Baseball Coach* | 2021 – Present