Eric Tavela

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Professional Summary

Practical and experienced software engineer and architect, passionate about software craftsmanship, cloud native technologies, building supportive and capable development teams, and software development process best practices.

Relevant Professional Experience

Aura (Burlington, MA), Senior Platform Engineer   **2021 - present**
Design, implement and deploy foundational platform services in AWS for the Aura personal digital security tool suite. Services are implemented as Node.js 16 AWS Lambda functions written in TypeScript 4.2 integrated with DynamoDB, SQS, SNS, Step Functions and other supporting infrastructure. Design and maintain infrastructure and CI/CD using Terraform and GitHub Actions.

Services operate at high-scale (approximately 15 million API invocations per day) and require a high level of security to protect customer authentication and billing data and PII. Perform DevOps responsibilities including production monitoring, optimization, and troubleshooting.

Green Light Software (Reston, VA), Founding Member   **2020 - present**
Founded software start-up as a side project to provide operational support for worker cooperatives. The system runs within Kubernetes 1.23 as lightweight Node.js 16 microservices written in TypeScript 4.7 that are invoked via Knative Eventing and Serving 1.6 within an Istio 1.14 service mesh. The system is implemented with React 18.2 and React Redux 8.0 as the core front end frameworks, Cassandra 4.0 as the data store, and Keycloak 17.0 as the identity management platform. Infrastructure configuration and CI/CD are implemented with Terraform 1.2, Argo CD 2.4 and Tekton Pipelines 0.37.

CompuGain (Herndon, VA), Full Stack Engineer   **2020 - 2021**
Designed and implemented high-performance message ingestion framework and other software components for College Board's Learning Management System (LMS) using Node.js 14 AWS Lambda functions, SNS, SQS, DynamoDB and RDS (Aurora PostgreSQL). Set up CI/CD for the LMS project with framework built on AWS CodeBuild and CodePipeline services.

Jus Cogens (Washington, DC), Founding Member   **2019 – 2020**
As the principal technical founding member, established the architecture, delivery platform and development process for Jus Cogens, a web-based international legal research tool, in addition to implementing components across all tiers.

Jus Cogens is designed as a set of RESTful and message-driven microservices with a React/Redux front-end. The software platform employs Java SE, Spring Boot, Python, ReactJS, MongoDB, RabbitMQ, and Elasticsearch. The CI/CD platform uses Jenkins X and associated technologies (Helm, Docker, etc.) to deploy components to a Kubernetes cluster running on Google Cloud Platform.

CompuGain (Herndon, VA), Senior Architecture / Software Engineer   **2017 - 2019**
Led a development team for CollegeBoard's Advanced Placement (AP) course registration and exam ordering software platform. Designed the exam ordering microservice and implemented Java and Python components for

other microservices. Core technologies include Spring Boot, AWS Lambda, AWS ECS, AWS DynamoDB, AWS RDS PostgreSQL.

5AM Solutions (Rockville, MD) Founder, Software Architect, Software Engineer   **2003 - 2017**
As Founder, set the initial technical direction for 5AM and built a vital client portfolio through successful delivery of projects and building a high-performing software development team.

Led teams to deliver software for major healthcare and life sciences clients including Pfizer, the National Cancer Institute and Thermo Fisher Scientific. Notable projects include:

- Technical Lead on project Sunrise that manages data capture and processing for pharmaceutical clinical trials via an AngularJS front-end backed by a microservices infrastructure.

  Technologies include Spring Boot, AngularJS, JHipster, MySQL, Cassandra, Cucumber, Serenity, and Docker.

- Architect and Technical Lead on foodfraud.org version 2.0 for the U.S. Pharmacopeial Convention. The application tracks and reports instances of food supply adulterants for industry clients.

  Technologies applied include Spring Boot, AngularJS, CAS authentication integration and Oracle RDBMS.

- Architect and Technical Lead for the Pfizer Blue Button project, the first solution to deliver clinical trial data directly to patients. The solution transforms Oracle Clinical study exports to industry standard FHIR Resources and HL7 C-CDA documents and provides a RESTful API to retrieve HL7 C-CDA documents and PDF representations.

  Technologies include Spring MVC, Tomcat, and MDHT CDA for HL7.

- Architect and Technical Lead for caArray 2.0 for the National Cancer Institute used by NCI-funded research to manage and share gene expression microarray data between cancer researchers.

- Developed materials for and delivered 5AM's internal hands-on UML 2.0 with Enterprise Architect training course.

Number Six Software, Senior Software Consultant   **2000 – 2003**
Mentored development organizations in object-oriented development technologies. Specific duties included hands-on consulting in Java EE technology, web application design, object-oriented analysis and design, UML, and technical best practices.

- **Consultant to Booz Allen Hamilton**: designed and implemented the middle-tier architecture for a U.S. State Department project targeted for worldwide deployment. Mentored development personnel in EJB analysis and design and provided guidance in UML modeling and applying the Rational Unified Process.

- **Consultant to Freddie Mac**: instituted major improvements in development build, test, and deployment processes for Project Enterprise, a mission-critical Java EE project. Directed change management and build activities for a large development staff (60+ developers) during a major restructuring effort, moving from feature set based development to a subsystem-based approach. Coordinated efforts of a team of subsystem integrators and managed activities of the main integration team.

- Taught classroom-based Rational Software courses in Object-Oriented Analysis and Design with UML and ClearQuest and ClearCase Administration.

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UNISYS, Principal Programmer Analyst   1998 – 1999

Developed software on-site at the U.S. Coast Guard Operation Systems Center.

- Developed application to automate USCG web server procedures with ASP front-end, Java SE business layer and SQL Server database.

- Analyst and data modeler for a mission-essential USCG marine safety operations project.

- Awarded Contractor Employee of the Quarter and twice awarded Unisys Achievement Award for Excellence.

AMTI, Internet Administrator   1996 – 1998

Performed a wide range of application development and system administration activities to support United States Coast Guard internet services.

- Installed and administered firewall, DNS, SMTP and NNTP services in heterogeneous Unix environments.

- Developed application to track USCG-wide Y2K system upgrade activities with IIS, JavaScript, and SQL Server.

AOL, Internet Systems Developer   1995 – 1996

Developed internal and customer-contracted web-based applications for AOL's internet hosting division.

- Developed applications to automate deployment of web servers and databases on a network of SGI hardware and registration of domains and DNS for one of the first-ever web hosting platforms.

Certifications

- Certified Kubernetes Administrator – 2021
- Certified Kubernetes Developer – 2021
- Apache Cassandra Developer Associate – 2021
- AWS Certified Solutions Architect – Associate – 2017
- ScrumAlliance Certified ScrumMaster – 2009
- IBM Rational Certified Instructor (2000 – 2007): ClearCase and ClearQuest Administration, Object-Oriented Analysis & Design with UML, Rational Rose and Principles in Object Technology
- IBM Rational Unified Process Certified Consultant, 2002
- Sun Certified Web Component Developer for Java 2 Platform, Enterprise Edition, 2002
- Sun Certified Java 2 Programmer, 2000

Awards and Notables

- Contributing author for 2008 Jolt Award winning book, <u>Continuous Integration: Improving Software Quality and Removing Risk</u>

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