

ALESSANDRA GUERINONI

📍 Palo Alto, CA 📞 415-307-5619 ✉ ale.guerinoni@gmail.com 🌐 alessandraguerinoni 📧 alegueri 🌐 alessandraguerinoni.com

SUMMARY

Senior Software Engineer and Tech Lead at Tesla with 4 years' experience designing distributed systems (Kafka, Kubernetes, Go) and shipping AI-powered tooling at scale. Two promotions in 3 years; portfolio of \$22M+/-year in validated business impact. Currently pursuing an MS in Biomedical Engineering at Johns Hopkins University with a focus in neuroengineering.

EDUCATION

Master of Science, Applied Biomedical Engineering

Sept 2025 - Present

Johns Hopkins University, Whiting School of Engineering – Engineering for Professionals

- Focus area: Neuroengineering.
- Completed coursework: Physiology for Applied BME I & II, Mathematical Methods for Applied BME.

Bachelor of Engineering, Mechatronics Engineering

Sept 2016 - Apr 2022

McMaster University

- Awards: Golden Key Award (top 15% of the faculty); Future Leader Recognition Award; Dean's Honour List (3.7 GPA / 4.0 scale); Faculty of Engineering Entrance Award.
- Capstone project — **TriAuto**: Co-developed an automated hospital triage system with a 4-person team using React, Node.js, MySQL, and Socket.IO.

Machine Learning Certificate

May 2024 - Aug 2024

Cornell University

WORK EXPERIENCE

Senior Software Engineer, Tech Lead

July 2022 - Present

Tesla

- Advanced from Associate to Senior Software Engineer in under 3 years (two promotions, Apr 2025).
- Led engineers building internal engineering platform tooling generating an estimated \$22M+/-year in validated time savings across the organization.
- Designed and implemented a notification system using Kafka, Kubernetes, and Golang, generating an estimated \$18.8M in business impact.
- Architected and shipped a full-stack web application (Next.js, React, Go microservices, Kafka, S3) replacing legacy tooling — 10X performance improvement, 99.76% uptime, ~2000 daily users; reduced approval cycle time from ~20 days to 8 days (60% reduction); \$3.1M/year validated savings.
- Spearheaded AI integration into engineering workflows — production features achieving 97% classification accuracy, eliminating ~6,000 hours/year of manual review (\$1.2M/year validated savings).
- Engineered and optimized ETL pipelines for efficient data consumption via gRPC and REST APIs, leveraging Go, MySQL, and Temporal workflows.
- Mentored engineers and delegated major features while maintaining technical accountability; contributed to the hiring pipeline through technical screens and panel interviews; mentored intern through to full-time conversion.
- Assumed Acting Product Manager responsibilities (Apr 2026 - Present), owning backlog prioritization, product strategy, and stakeholder alignment after PM departure.

Project Manager, Governance & University Collaboration

May 2019 - Aug 2020

Bombardier, Mitsubishi Heavy Industries

- Managed 50+ projects across the enterprise, ensuring budget and schedule adherence; chaired monthly status meetings with Managers and Senior Director.
- Led a team of 6 professionals coordinating university partnerships; successfully recruited 26 interns.
- Negotiated university contracts, reducing cost overhead by 2%.
- Built Python tooling for Oracle database access to streamline project reporting.

Teaching Assistant – Discrete Mathematics & Computational Thinking

Jan 2019 - Apr 2019 & Sept 2021 - Dec 2021

McMaster Faculty of Engineering

- Facilitated Haskell and computer science learning for 50+ students; led tutorials, graded assignments, and ran consultations.

Software Engineering Camp Counselor

Apr 2018 - Sept 2018

McMaster Faculty of Engineering

- Introduced 250+ children to Software Engineering through Python, Arduino, and web projects; delivered STEM lectures to 100+ students across Hamilton.

SKILLS

Languages:

Go • TypeScript • JavaScript • Python • Java • C++ • Haskell • MATLAB • SQL

Cloud & Infrastructure:

AWS • Azure • Docker • Kubernetes • S3 • Kafka • Temporal • Redis

Frameworks & Tools:

Next.js • React • Node.js • REST • gRPC • OAuth • JWT • Prometheus • Grafana • Splunk