Erik Gaasedelen

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Professional Summary

Engineering leader and technologist focused on driving business impact through scalable software solutions and data-driven systems. Proven track record of building high-performing teams and unifying complex technical initiatives across organizations while maintaining hands-on technical excellence. Experience architecting and delivering critical infrastructure and experimentation frameworks at scale, currently demonstrated in autonomous systems. Combines rigorous engineering methodology with modern tooling to enable rapid iteration and quantifiable business outcomes.

Experience

Woven by Toyota, Senior Engineering Manager — Los Altos, CA — Feb 2024 – Present

- Lead a core team of 10 engineers responsible for metrics infrastructure and virtual validation systems
- Drive product development for simulation validation, metrics computation, and data analysis pipelines
- Architect and implement full-stack solutions enabling quantitative evaluation of autonomous systems

Woven by Toyota, Staff Software Engineer — Los Altos, CA — May 2023 – Feb 2024

- Led development of unified metrics framework enabling first-time quantitative evaluation across simulation and real-world testing
- Architected system processing 1M+ virtual driving miles monthly for autonomous vehicle validation
- Established technical foundations for multiple virtual validation products used across planning, release, and triage teams

Woven by Toyota, Senior Software Engineer — Los Altos, CA — July 2021 – May 2023

- Expanded large-scale experimentation systems enabling comprehensive virtual validation of autonomous systems
- Developed full-stack infrastructure using Python, FastAPI, AWS, and React for metrics computation and visualization
- Created ETL pipelines and frameworks for processing and analyzing autonomous vehicle data at scale

Lyft Level 5, Software Engineer — Palo Alto, CA — May 2019 – July 2021

- Pioneered large-scale simulation experimentation systems for autonomous vehicle testing
- Built critical safety validation infrastructure to analyze disengagements through simulation for DMV reporting
- Developed simulation platform capabilities enabling systematic evaluation of autonomous system performance
- Created backend systems and libraries for managing and analyzing large-scale simulation results

Lyft Level 5, Software Engineering Intern — Palo Alto, CA — Aug 2018 – Dec 2018

- Implemented DeepLabv3 models for semantic segmentation applied to the Cityscape dataset
- Contributed to computer vision systems for autonomous vehicle perception

Technical Skills

Engineering Leadership: Agile/Scrum methodologies, Technical Project Management, System Architecture Design, Team Building, Product Strategy

Software Development: Python, React, FastAPI, AWS (Lambda, Step Functions, Batch, DynamoDB), Terraform, OAuth2

Data & ML Systems: Large-scale ETL, Metrics Framework Design, Deep Learning (PyTorch, Computer Vision), Experimentation Systems

Modern Tools: HTMX, Monster UI, FastHTML, Generative AI Tools (Claude, ChatGPT, Cursor), RAG, Prompt Engineering

Education

PhD — **University of Minnesota**, Bioinformatics and Computational Biology — 2014 – 2019

- Dissertation: "Deep Learning And Virtual Reality In The Surgical Sciences"
- Research focused on applying deep learning to medical imaging for automated 3D segmentation
- Developed VR visualization tools for surgical planning and medical device evaluation
- Laboratory: Visible Heart Lab - Medical Device and Cardiothoracic Physiology Research

BS — **University of Minnesota**, Neuroscience — 2012 – 2014