

# Lucas Doyle

Senior Machine Learning Engineer | San Francisco, CA



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My superpowers are zero-to-one problem solving, delivering prototypes and last second demos that seem impossible. I've shipped at-scale across firmware, mobile, backend, frontend and ML infrastructure. Most excited when I can see the real, physical impact of my work at scale (e.g. smart hardware, intelligent systems, robotics).

## Experience

### Samsara - Senior Machine Learning Engineer II

San Francisco, CA | 2018 - Present

Python, Golang, Typescript (React, Redux, React Native), Android (Java, Kotlin)

#### ML Infrastructure

Led the infrastructure and product features behind Samsara's core safety product (e.g. tailgating, rolling stop sign detection, lane departure) that run on the edge across 2M+ of Samsara's AI dashcams, improving the safety of our roads and drivers.

- Led end-to-end development and deployment of multiple edge pipelines, including device farm QA automation, shadow testing, and firmware infrastructure/feature development.
- Built internal tools for debugging, continuous evaluation, and telemetry replay; enabled scalable model iteration and observability across firmware and cloud.
- Spearheaded offline evaluation pipelines for quantized models and integrated support for multimodal data (video, IMU, GPS, hardware emulation, etc.).
- Mentored interns and collaborated cross-functionally with product, firmware, science and data teams to streamline ML deployment and validation processes.

#### Mobile

- Led performance and infrastructure efforts for mobile applications with 500k+ DAU, driving major improvements in responsiveness, reliability, and developer velocity.
- Helped bootstrap new apps, products and the company's first native Android systems and mobile device management (MDM) stack.

### Airware - Senior Software Engineer

San Francisco, CA | 2014 - 2018

Javascript (React, Redux, Leaflet, React Native), Python, Swift, PHP, Golang

Developed core technologies for a drone platform to capture, upload and process large-scale imagery into survey-grade data for insurance and mining industries.

- Created a desktop app for flashing and configuring fixed-wing and multirotor drone avionics hardware.

- Built cloud workflows for large-scale survey processing and analysis with a GIS/geospatial-focused UI.
- Developed a mobile app for drone operators using React Native and iOS, enabling geofence editing and on-device photogrammetry processing.
- Led feature development, large-scale refactors, product mergers / acquisitions; contributed to hiring, planning, and mentoring engineers.

## MUJIN Inc. (株式会社MUJIN) - Software Engineer

Tokyo, Japan | 2012 - 2014

Python (django, OpenRAVE), Javascript (Backbone/Marionette, WebGL)

Fourth employee at a Japanese industrial robotics startup:

- Designed and implemented the web interface for the MUJIN Controller, a robotic arm workcell planning system used by Canon, Honda, and other system integrators.
- Developed customer-facing UIs featuring a real-time, WebSocket-based WebGL viewer for a bin-picking system.
- Collaborated with an international team while living in Japan for two years.

## Education

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### Rensselaer Polytechnic Institute

B.S. Computer and Systems Engineering | 2008 - 2012

### Boeing Robotic Wingbox

Simulated intra-wing robot for aircraft inspection.

[Project Link](#)

### DaBuzz Market Sentiment Analyzer

Web crawler for financial news sentiment analysis.

[Project Link](#)

## Patents

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### Lane departure monitoring

[US12165393B1](#)

### Context based action menu

[US12150007B1](#)

### Unmanned aerial vehicle privacy controls

[US20220392353A1](#)

# Miscellany

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Significant skills or things that don't neatly fit into the other sections:

- Mechanical design / CAD / 3d printing
- Homelab / VPN / extensive self-hosting experience
- Occasional paid and pro-bono consulting
- Cat lover, marathon runner (Boston 2023), climbing