

# Sam Havens

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## Senior Machine Learning Engineer

*Technical professional using machine learning and automation to solve real-world problems.*

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Software engineer and manager with 7+ years of experience in both hands-on and technical leadership roles. Analytical by nature, with a knack for design and development of machine-learning-driven applications/services, with a specialty in Natural Language Processing. A self-starter and clear communicator who values learning and teamwork. Inspiring team leader with experience hiring, training, and motivating staff to tackle challenges and exceed expectations. Fluent in English, conversational in Spanish, with knowledge of Japanese and French.

### Core Competencies:

- Natural Language Processing
- Machine Learning
- DevOps/Site Reliability Engineering
- Application and API Development
- Team Growth, Leadership, Training

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## Professional Experience

Qordoba — Remote

### Director of Data Science, 2/2019 - Present

NLP is at the core of what Qordoba does, and this role is responsible for that functionality and team. Lead the team writing Python-based NLP microservices in a Kubernetes/PubSub architecture. Also responsible for service deployment and maintenance, as well as growing and leading the NLP team. Work closely with marketing and product to align the NLP roadmap with customer expectations.

#### Key Achievements:

- Reduced mean service latency from >1.5s to <300ms.
- Grew team from 2 to 6, while improving onboarding effectiveness (time to first commit: from weeks to < 1 day)
- Responsible for the core functionality behind all new products/features, including a state-of-the-art Grammar Error Correction model, and models to measure and correct: gender bias, (in)formality, and Plain Language using PyTorch, SpaCy, scikit-learn, Numpy, Tensorflow, gensim, flair, and other cutting edge ML and NLP tools. Work with ops tools like bash scripts, GCP (PubSub, GKE, GCE), Kubernetes (kubectrl/kubectx/WeaveWorks), nvidia-docker, and Jenkins.

CarLabs — Calabasas, CA

### Chief Technology Officer (CTO), 4/2016 - 1/2019

Ensured seamless technical operations and directed a team of 15 engineers, offering guidance and mentorship toward common goals. Wrote code and assisted with technical sales initiatives while applying machine learning NLP tools including FastText, scikit-learn, and Tensorflow. Developed frontends with React and Redux ;created back ends with Node.js, Elixir, and Python. Performed automation with Bash, Jenkins, ElasticBeanstalk, Docker, etc. Cultivated positive and collaborative workforce dedicated to continuous improvement.

#### Key Achievements:

- Promoted to CTO after building prototype that became focus of the company; steered strategic direction and teams while performing hands-on technical tasks.
- Drove team expansion and growth by recruiting, hiring, and mentoring sixteen new staff members, taking team from two to eighteen individuals.
- Established NLP team from current software engineers and led them to increase accuracy of business-critical classification model by 3% (absolute % points) within two sprints.
- Generated 25% of 2019 revenue by performing statistical analysis of conversation logs and identifying new product.

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- Improved knowledge sharing and expedited issue resolution by implementing technical “lunch and learns” focused on sharing knowledge within the team.

## **Full Stack Developer**, 9/2015 - 4/2016

Improved user experience by creating UIs and APIs for car comparison shopping. Developed web application using React, ES6, Webpack, and MaterialUI. Built an NLP-driven conversational UI using ES6, Hapi, Docker, Python, NLTK, and machine-learning services. Applied HTML/CSS/JavaScript for chat window.

*Key Achievements:*

- Secured and won contract worth over \$1M in revenue by designing, building, and pitching product.
- Doubled ticket velocity by leading transition to modern CI/CD environment with no disruption to operations.

RevMaker — Remote

## **Software Engineer**, 4/2014 - 9/2015

Served as software engineer collaborating with team across stack and performing mathematical modeling to create high-impact software experiences for automotive research and comparison shopping. Used PHP and MySQL to build lead-scrubbing tool used to evaluate likelihood of legitimate contact information.

*Key Achievements:*

- Created web application using Yii, MySQL, jQuery, and d3.js, enabling users to express preferences and see real-time updates to recommendations.
- Expedited lead scrubbing by >400x through automating process via implementing probabilistic model.
- Increased search rankings from second page of Google Brazil to top three by implementing SEO strategies and automatically generating sitemap for dynamic pages.

## **Technical Proficiencies**

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**Machine Learning:** Python, PyTorch, Jupyter, scikit-learn, fastai, TensorFlow

**Web Development:** Node.js, Express, React, Flask, Sanic

**SRE:** GCP (GKE, ML Engine), AWS (Neptune, Lambda, RDS, Kinesis, EKS), Docker, Kubernetes, Jenkins, Bash, NGINX

**Programming Languages:** Python, Javascript (previously Elixir & PHP; knowledge of Julia & Ruby)

## **Education and Credentials**

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**Master of Science in Mathematics** | CSUN

*Honored with Bianchi Outstanding Graduate Student award for research related to inflationary cosmologies*

*Named IRIS Fellow in mathematics with Interdisciplinary Research Institute for the Sciences*

**Bachelor of Arts in Physics** | University of California, Santa Barbara

*LEAPS Fellow*

## **Service Leadership**

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Topanga Mountain School -- Topanga, CA

**Board Member**, 1/2014 - Present

Generated two-fold decrease in staff attrition by planning and implementing staff benefits plan. Increased student application leads by 15% by researching and launching first Facebook advertising campaign. Introduced new technology and led programming club.