

Evan Gabrielson

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EDUCATION

University of Southern California

August 2021 - December 2023

M.S. Electrical and Computer Engineering, Machine Learning and Data Science

University of Southern California

August 2018 - May 2022

B.S. Electrical and Computer Engineering

GPA: 3.85 / 4.00

Honors: Magna Cum Laude, USC Presidential Scholar, USC Viterbi Research Fellow, Lundquist Scholar

Awards: Viterbi Merit Research Award, TroyLab's "Startup of the Year", Contrary VC's "US College Startup Champion"

Leadership: Vice President and Treasurer at Troy Tones Acapella, Treasurer at USC Club Water Polo

WORK EXPERIENCE

Senior Software Engineer, Data Pipelines

January 2024 - May 2024

Datum Technologies Corporation

- Engineered AWS-managed Airflow to clean and transform commercial lease PDFs into LLM-generated Question-Answer (QA) pairs using GPT-4, Pinecone and LangChain RAG to achieve 5x increase in lease processing throughput for 80% reduction in product pricing.
- Led development of Next.js and React Typescript UI for validating QA pairs with human feedback, doubling user feedback score to 99%.
- Optimized platform operations by integrating GitHub Actions for CI/CD and unit testing, Twilio SMS for OAuth, Stripe Connect for payouts, and Slack API for in-platform support, slashing administrative hours for the Chief Operating Officer by 60%.

Co-Founder and Chief Technology Officer

December 2021 - May 2024

Carbonlink Incorporated

- Designed, deployed, and maintained high-availability B2B platform in Next.js, React Typescript, Jest, and Kubernetes for carbon accounting and offsetting, handling \$60M in credits for 200+ enterprises from 340 globally-sourced sustainability projects.
- Centralized accounting and offsetting services into serverless, event-driven REST API provisioned in Terraform and AWS to enhance scalability and maintainability, yielding 45% reduction in operating costs, 30% faster release cycles, and 99.8% uptime.
- Identified Carbonlink API as growth driver by analyzing log data in Elasticsearch dashboard, leading to 125% surge in monthly revenue.
- Exceeded product timeline expectations with 100% sprint completion rate for 12-person team by meticulously detailing feature requirements and automating CI/CD and user story management with GitHub Actions.

Research Scientist, Algorithms

August 2020 - September 2021

USC Institute for Technology and Medical Systems

- Spearheaded comparative analysis on 7 convex hull algorithms within parallel and distributed environments, benchmarking performance metrics like runtime and scalability to evaluate their applicability for large-scale data processing.
- Adapted and optimized Graham Scan algorithm for GPU acceleration with CUDA, NumPy, and Shapely for brain signal pathway reconstruction, reducing processing time from 23 minutes to 1 minute for near real-time simulation of pathway geometries.

Software Engineer, Navigation

May 2021 - August 2021

Northrop Grumman Corporation

- Rectified bit overflow in flight navigation code isolated through rigorous unit testing in C++, saving \$1M+ from averted unit recalls.
- Tuned ARIMA model for denoising accelerometer signal input, isolating original signal with 99% accuracy after 100ms.

Software Engineer, Navigation

May 2020 - August 2020

Northrop Grumman Corporation

- Generated unit tests in C++ Bazel for UH-60 Blackhawk and programmed GUI dashboard for unit test monitoring and error tracing.
- Coded C++ plugin to support database transactions and change previews within IBM DOORS, reducing timeout frequency by 80%.

PROJECTS

Modeling IBM Subscription Churn with Ensemble and Boosting Algorithms

January 2024 - February 2024

- Addressed imbalances in subscription data with SMOTE then trained Stacked Ensemble model scoring 85% ROC-AUC on new churn.
- Conducted SHAP value analysis on XGBoost, CatBoost, and LightGBM models to uncover competitor price-matching and discounted annual subscriptions as key factors in reducing churn by up to 20%.

Automating Financial Check Filing with Computer Vision

March 2021 - June 2021

- Built OCR tool with PyTesseract, OpenCV, and Streamlit to extract financial data from check images with 96% character recognition accuracy, automating 5 hours of weekly manual filing for accounting firm.

Electrical Engineer for NASA CubeSat Satellite Build

August 2019 - February 2020

- Directed PCB design and integration of solar array and battery system for satellite to qualify 14 Lockheed Martin SmartSat™ sensors.
- Modeled "Blackout" protocol to reduce battery power drain by 80% during critical power loss events, boosting satellite resiliency.

TECHNICAL SKILLS

Programming: Javascript/Typescript, C++, Python, Golang, HTML, CSS, SQL (MySQL), NoSQL (MongoDB, Firebase)

Tools: React, Redis, Next.js, Terraform, Docker, Kubernetes, PyTorch, Pandas, NumPy, LangChain, Airflow, Spark, Kafka, Jest, Git