

Benjamin Sinek

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EDUCATION

Georgia Institute of Technology

B.S. in Computer Science - Artificial Intelligence, Machine Learning, HCI

Atlanta, GA

Expected May 2027

EXPERIENCE

Independent Research Intern

Aug 2023 – Jun 2024

Mentored by Gezim Gashi & Dr. Chris Mattmann (NASA Jet Propulsion Laboratory)

Los Angeles, CA

- Built an interactive in-car prototype that takes a camera image of the driver, predicts facial emotion, and recommends a song based on the predicted emotion
- Trained a 5-class facial emotion recognition model, achieving ~80% accuracy over 50 training epochs
- Mapped predicted emotion outputs to Spotify audio features and metadata
- Designed the system architecture to support future EEG-based inputs for emotion inference

Data Engineer (Contract)

May 2024 – Aug 2024

Bud ADU (Early-Stage Clean Energy Startup)

Los Angeles, CA

- Designed a field operations tracking system to coordinate survey teams across geographic districts, prevent duplicate coverage, and standardize logging of work hours and survey counts
- Built structured spreadsheet templates and data workflows to consolidate 2,000+ manually collected paper surveys into a centralized dataset
- Implemented a CSV-based ETL workflow using Python and Pandas to clean, normalize, and validate inconsistent survey data
- Generated a clean dataset, summary metrics, and visualizations used in investor presentations

PROJECTS

Adversarial Game-Playing Agent | *Python, NumPy*

Nov 2025

- Built an autonomous agent for a competitive game with two hidden trapdoors, maintaining and updating probability distributions over trap locations each turn from noisy in-game signals
- Designed a heuristic-based state evaluation function using 15+ hand-crafted features (mobility, territory via flood-fill, risk, spawn-blocking), combined through a weighted scoring model
- Selected actions using beam search (depth 4, beam 6) with explicit opponent modeling, and engineered a search-context cache to reuse reachability computations and enable deeper lookahead

Developer Portfolio | *React, JavaScript, Tailwind CSS, Vite, HTML, CSS, Framer Motion*

Sep 2025 – Jan 2026

- Built a React-based single-page portfolio with a Spotify-inspired UI, focusing on responsive layouts and motion-driven interactions using Framer Motion

TravelSmart | *Django, Python, JavaScript, Google Maps API, HTML, CSS, Scrum*

Jan 2025 – May 2025

- Designed a full-stack travel planner integrating Google Maps APIs with custom logic to generate optimized routes from user-selected POIs
- Implemented an end-to-end Announcements system for administrators to broadcast updates to 1000s of users
- Added animations and random destination suggestions in JavaScript to enhance user experience
- Developed an interactive Itinerary page with drag-and-drop reordering and detailed trip cost summaries

Breakout Trading Algorithm | *Python, QuantConnect, NumPy*

Jan 2022 – Mar 2022

- Designed a volatility-adjusted breakout strategy on SPY using dynamic lookback windows (10–30 days)
- Implemented entry logic on price breakouts and exit rules via trailing stop-loss with automated order management
- Backtested across 3 years of daily SPY data, applying portfolio allocation, risk controls, and performance visualization

TECHNICAL SKILLS

Languages: Python, Java, C, JavaScript

Machine Learning: NumPy, pandas, scikit-learn, TensorFlow, Keras

Full Stack: React, Django, Node.js, Vite, Tailwind CSS, HTML, CSS

Tools & Platforms: Git, Vercel