Max Bader

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Education

University of California, Irvine **Expected: June 2027**

B.S. Computer Science *GPA:* 3.4

Relevant Coursework: Data Structures/Algorithms, Object-Oriented Programming, Computer Architecture, Artificial Intelligence, Discrete Math, Discrete Structures, Information Retrieval, Machine Learning, Linear Algebra, Statistics

Technical Skills

Languages: Python, Java, C/C++, HTML/CSS, JavaScript, SQL, R, TypeScript
Technologies/Frameworks: GitHub, JUnit, Visual Studio Code, React, React Native, NumPy, Tensorflow, Flask, MatplotLib, pandas, Node.js, Supabase, FastAPI, Keras, scikit-learn

Experience

YesMedia **September 2025 – Present**

Software Engineer Intern *Remote*

- Developed and optimized front-end features across TypeScript and Swift, building interactive UI components (photo slideshows, project galleries) and resolving key iOS UI issues such as gesture handling, and card interactivity.
- Integrated AWS cloud services with DBeaver for streamlined database management, enabling efficient data querying, monitoring, secure access control, improved reliability, and backend connectivity across the application.

Algoverse **March 2025 – July 2025**

Artificial Intelligence Researcher *Remote*

- Co-developed CoVeGAT, a Python NLP/Graph ML pipeline that parses free-form claims & citations into SVO triplets (spaCy w/ negation tagging), scores support with GPT models, and classifies alignment via Graph Attention Networks.
- Curated a 1K balanced citation-alignment dataset (500 verified AVeriTeC claims + 500 single-edit perturbations: entity, numeric, temporal, causal); implemented Python scripts for automated generation to stress-test LLM factuality.
- Achieved 96% detection accuracy on adversarial fabrications with a lightweight CoVe-Kernel similarity baseline (MiniLM embeddings + RBF distance threshold); surfaced failure modes in fine-grained numeric & causal edits for calibration.

Boundary Remote Sensing Systems **May 2025 – Present**

Software & Artificial Intelligence Developer *Irvine, CA*

- Developed and optimized a lightweight multimodal foundation model by extending TinyLlama with vision encoders, supporting robust text-image understanding for geospatial workflows and domain-specific applications.
- Led benchmarking and training efforts for geoscience foundation models, applying a structured fine-tuning recipe (adapter warm-up - LoRA fine-tuning - RAG/tool-use integration) while optimizing raster tiling and georef tokenization.

Projects

TradeStreet - AI Synthetic Market

- Developed a real-time synthetic stock market simulation using React, TypeScript, and Vite, implementing a custom React hook to manage market state with price updates every 4 seconds, AI-generated events, and candlestick charts
- Optimized performance by implementing memoization with useMemo, useRef to prevent re-renders, and dependency array management, eliminating flickering in real-time charts and reducing render cycles by 80%.
- Integrated Claude API to generate financial news with sentiment analysis, designed a price engine that dynamically adjusts stock prices based on AI-generated sentiment, and implemented fallback mechanisms for API failure handling

AskHer - Emotional Support App

- Built a production-ready full-stack app: React frontend + FastAPI services backed by Supabase (Auth, RLS) to deliver secure user profiles, community posting, and peer-support engagement features.
- Integrated Gemini API to provide an empathetic in-app conversational agent that delivers real-time encouragement, relapse-mitigation tips, and context-aware resource suggestions based on user history.
- Modeled relational schemas & designed versioned RESTful endpoints in Supabase for scalable, low-latency read/write of user interactions, chat messages, and community activity streams; instrumented for growth.

Zotify

- Developed a full-stack JavaScript/React web app with a Python API layer integrating the Spotify API to authenticate users, query artists/tracks/albums/playlists, normalize JSON responses, and render search results in real time.
- Designed and implemented a responsive, highly interactive UI (hooks, context state, conditional rendering, lazy-loaded album grids, hover detail cards) with RESTful data fetches to reduce latency and improve user engagement.