Jacob M. Million

Github | *Jacobmmillion@gmail.com* | *Website*

Education:

- Bachelors, Computer Science, *Columbia University, NY*   Expected May 2025
- AA Psychology, *Pierce College, WA*   2018 - 2020

Experience:

- Internal Automation Engineer, **Vert Ventures**   January 2025 - Current
  - Spearheaded the design and deployment of innovative automation solutions - streamlining internal processes, reducing manual tasks, and enhancing productivity, cost efficiency, and data accessibility.
  - Developed an impact-scoring system that leverages multiple heuristics to identify high-quality creator partners and engineered a robust backend to aggregate daily statistics and deliver actionable insights that propelled multiple apps into the top 10 of their iOS App Store categories (one reaching #3). Built a dynamic data analytics portal for real-time ad performance monitoring, key cost-metric calculations, and marketing strategy evaluation.
  - Architected and deployed automated pipelines to identify and engage potential partners for application promotion, driving a 15% increase in monthly creator contracts.
  - Collaborate with cross-functional teams to ensure these initiatives align with broader marketing and business objectives.

- Data Science and LM Intern, **VytalSigns**   August 2024 - Dec 2024
  - Collaborated closely with the CTO and Head of Data to develop the backend of VytalSign's alpha platform.
  - Engineered robust Python-based data pipelines to aggregate, transform, and integrate diverse data sources into a central database, and leveraged Azure Service Bus to automate inter-service communication and post-ingestion scoring for streamlined data processing.
  - Designed and implemented automated verification methods to ensure the precision, safety, and reliability of LLM-generated outputs.

- LLM Code Production Training, **Scale AI**   April 2024 - August 2024
  - Worked with Scale AI and G2I to train large language models, enhancing their ability to generate high-quality code across complex domains by conducting in-depth reviews of downvoted LLM interactions, crafting optimized responses for training data.
  - Applied expertise in Python, Swift, Java, C, C++, Assembly, Lua, and Rust, and other languages, to address advanced topics such as object-oriented programming, RSA encryption, and iOS application development.

- AI Software Engineer Intern, **Radical AI**   August 2023 - Dec 2023
  - Developed an AI-driven quiz generation tool leveraging Google Gemini API and VertexAI text embeddings. It consists of a pipeline for extracting and embedding content from user-provided PDF documents, dynamically generating quizzes with instant feedback and detailed explanations.

- Computer Science Instructor with **Coding4Youth**   May 2023 - August 2023
- Computer Science Instructor with **LearningWorld**   January 2025 - Current
  - Taught computer science fundamentals (e.g., conditionals, loops, OOP, algorithmic thinking) to students aged 6–18. Fostered technical confidence and problem-solving skills in students.
  - Developed lessons on AI and model training such as with scikit-learn, game development with Pygame, and website development with Flask for more advanced students.

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Technical Projects and Applications:

- [ResAI](), Lead Developer, *Swift*   2025
  - Developed an AI-driven career companion **iOS app** with a modern, intuitive interface. It allows for personalized cover letter generation and resume critique, using the OpenAI API.
  - Implemented a subscription model to access pro features, integrated with Revenue Cat.
- [Stock and Crypto Price Prediction Application](), Lead Developer, *Python and Shell*   2025
  - Developed a Stock and Cryptocurrency Price Prediction Pipeline using historical data and machine learning. The pipeline ingests, cleans, and labels data, then trains a **Random Forest Classifier** optimized with **GridSearchCV**. The model predicts price movement with **58% precision** for cryptocurrency data, achieving an **F1-score of 0.63** on testing data sets.
- [HealthHub](), Lead Developer, *Python and HTML*   2024
  - HealthHub is a web application designed to help users monitor diseases in specific states and engage in discussions about health-related topics. It is built on top of a **relational database**, and is implemented in Python using **Flask**.
- [Menu-ly](), Lead Developer, *Swift and Firebase backend*   2024
  - Menu-ly is an **iOS application** designed to encourage restaurant staff to reference and study their restaurant's menu descriptions. The app empowers management to update, edit, and remove menu items and descriptions, ensuring the information is always up to date. It uses **Firebase backend** for secure user authentication and data storage. The application is available on the IOS App Store.
- [Oven Scheduler](), Lead Developer, *C*   2025
  - Designed and implemented the Oven scheduling class, a **custom multi-core scheduler** optimized for runtime improvements over the Completely Fair Scheduler (CFS). Improved tail completion times by 14% for high-priority tasks and reduced average taskset completion time across various workloads. Developed a dual scheduling algorithm: round-robin for low-priority tasks and virtual time scheduling for high-priority tasks, with **dynamic load balancing** to distribute tasks efficiently across CPUs, minimizing execution bottlenecks.
  - Conducted **performance analysis** using taskset benchmarking, demonstrating reduced latency and enhanced throughput.

Other Activities:

- Columbia Journal of Science, Technology, Ethics, and Policy, *Assistant-Editor*   2022-2023
- Columbia University Arete Effective Altruism Fellowship, *Participant*   2023