Richard Yin

📞 240-848-0402 ✉ richyin.99@gmail.com 🔗 linkedin.com/in/richxyin ⭘ github.com/yyrichy

Education

University of Maryland - College Park — August 2023 - May 2027
Bachelor of Science in Computer Science, Minor in Mathematics — *College Park, MD*
- **Courses:** Machine Learning, Algorithms, Data Structures, Data Science, Operating Systems, Multivariable Calculus
- **Activities:** App Development Club, College Park Scholars: Science Technology and Society
- GPA: 3.51

Experience

Echostar — June 2025 - August 2025
Software Engineer Intern
- Developed a high-precision Go monitoring system, to deploy via Docker for Delta's 1000+ daily flights, to ensure the accuracy of contractual KPIs that determine Echostar's per-flight revenue.
- Overhauled an unreliable Python system, eliminating a 10% test data loss rate by architecting a concurrent Go application using ticker-based scheduling; this new system also decreased CPU usage by 50%.
- Developed a data pipeline to compress and offload test results from hundreds of daily flights to GCP, enabling engineering and network teams to conduct fleet-wide performance diagnostics and root-cause analysis.

Children's National Hospital — September 2024 - May 2025
Software Engineer Intern
- Developed a real-time medical monitoring system with CNH researchers to detect tracheostomy decannulation and breathing anomalies, aiming to prevent respiratory emergencies.
- Re-architected BLE data link from polling to event-driven, boosting throughput 10x and enabling continuous real-time breathing anomaly detection for tracheostomy patients.
- Built a cross-platform Flutter application to deliver instant alerts for breathing emergencies to parents and nurses.

Relentless Returns — January 2025 - May 2025
Software Engineer Intern
- As first intern at a SEC-registered investment management firm startup; implemented the initial KYC onboarding form on React.js and ensured compliance with Alpaca's broker requirements.
- Automated the generation of monthly client statements and real-time trade confirmations by developing a backend service to aggregate financial data from Supabase and Alpaca APIs.
- Collaborated directly with the CEO and CTO in weekly sprints.

Tramona — September 2024 - December 2024
Software Engineer Intern
- Developed full-stack platform (Next.js, tRPC, Prisma) for Airbnb vacancy tracking startup Tramona.
- Reduced calendar booking page load times by 50% through memoization and lazy loading.

Projects

Testudo Match – Bitcamp 2025 Hackathon | *Google Gemini, LangChain, HuggingFace, Next.js*
- Developed an AI-powered course scheduler that transforms natural language queries (e.g., "I want hard ML classes and a history gen ed") weekly schedules for fellow students. **https://devpost.com/software/testudo-match**
- Engineered a semantic search pipeline using HuggingFace Sentence Transformers and LangChain to match user intent with course content by comparing the vector embeddings of queries and course descriptions.
- Leveraged the Google Gemini API to extract course level and difficulty from sentence.

Professor Rating Prediction | *Python, Scikit-learn, SentenceTransformers, NLP*
- Predicted UMD professor ratings from textual course reviews using NLP features, sentiment analysis.
- Engineered features including expected grades, review sentiment, review length, and mean review embeddings.
- Trained and evaluated Ridge Regression, Random Forest, and MLP (Neural Network) models.

Skills

Programming Languages: TypeScript, JavaScript, Python, Java, Go, SQL, C
Frameworks & Libraries: React, Node.js, Flutter, Next.js, TailwindCSS
Tools & Technologies: Git, Docker, LangChain, HuggingFace, AWS/GCP, PostgreSQL, MongoDB, scikit-learn
Other Skills: AI/ML, Data Science