Jude Lwin

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Education

University of Maryland, College Park   GPA: 3.95/4.00
Bachelor of Science, Computer Science and Mathematics, Minor: Computational Finance   *May 2027*
- Advanced Algorithms, Advanced Data Structures, Computer Systems, Databases, Object-Oriented Programming, Discrete Mathematics, Linear Algebra, Applied Probability and Statistics, Linear Optimization, Advanced Calculus
- **Awards:** CS Departmental Honors, Design Cultures & Creativity Honors College (DCC), Dean's Scholarship

Technical Skills

Languages: Python, Java, C, TypeScript, JavaScript, C++, Rust, OCaml, SQL, R
Frameworks & Libraries: React, Node.js, Express, Flask, Firebase, FastAPI, Pandas, Scikit-Learn, TensorFlow, PyTorch
Technologies & Tools: Git, Snowflake, PostgreSQL, MongoDB, AWS, Docker, REST APIs, Linux, Unix, CI/CD, JIRA

Experience

Capital One   McLean, VA
Software Engineer Intern   *May 2025 – Aug. 2025*
- Built an automated LLM evaluation pipeline in Python and Snowflake for Agent Assist, Capital One's first GenAI product, validating model deployments through **5K+** queries per evaluation; projected to cut expenditures by **70%**
- Engineered backtesting environment ensuring classifier updates improve performance on historical datasets
- Trained logistic regression and Naive Bayes classifiers to detect if challenger model generated production output
- Developed NLP scoring system with ROUGE, Levenshtein, and Fuzzy Encoding to validate model deployment

WISE Cities   College Park, MD
Software Engineer Intern | AI/ML Club   *Feb. 2025 – May 2025*
- Led backend development of a recommendation system for older adults to find local organizations and activities
- Engineered Python-based gRPC server to fetch and normalize **500+** MongoDB records using Pydantic
- Integrated all-MiniLM-L6-v2 and Pinecone to enable <**100ms** k-NN recommendations
- Built collaborative filtering system using matrix factorization to predict user preferences from interaction data

USDA   Riverdale, MD
Technology Intern   *Jun. 2024 – Aug. 2024*
- Automated inbox processing with Power Automate and Microsoft Lists; reduced team's manual load by **70%**
- Directed accessibility testing across 142 web apps for Section 508 compliance
- Built Python tool for USDA document lifecycle validation using Pandas, reducing processing time by **80%**

University of Maryland   College Park, MD
Teaching Assistant, CMSC330 (Programming Languages)   *Jan. 2025 – Present*
- Lead weekly discussion for **30+** students, host **5+** weekly office hours, and coordinate grading with **39** TAs
- Develop and test **7** OCaml/Rust projects, writing **50+** unit tests and documentation for **900+** students
- Streamline releases using GitHub, Docker, and GitHub Actions, improving deployment efficiency

Projects

Smart Study Assistant 🔗 | *Python, FastAPI, Celery, Docker, Supabase, Pinecone, AWS S3, React*   Jun. 2025
- Developed a distributed study assistant using FastAPI, React, and Docker microservices, allowing students to organize notes by course and query them in natural language to retrieve cited excerpts for efficient review
- Implemented RAG pipeline with Celery and Pinecone for document parsing, chunking, and semantic search
- Integrated Supabase for authentication and AWS S3 for storage, ensuring secure and scalable multi-course support

Code Your Own Adventure 🔗 | *React, TypeScript, Tailwind*   May 2025
- Engineered adventure game to help incoming UMD CS students navigate realistic college scenarios and explore paths to skill-building, career prep, and CS involvement; showcased to **80+** attendees at DCC Capstone Fair
- Implemented triangle-based stat system for academics, career, and social life, with energy bar to enforce tradeoffs

Custom Unix Shell | *C, Unix*   Apr. 2024
- Built a custom shell program in C that supports command execution, file redirection, piping, and subshell execution
- Implemented process management and error handling with fork, execvp, wait, dup2, and pipe for process creation