Andrew Wang

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EDUCATION

University of Maryland, College Park, MD
Bachelor of Science in Computer Science, Minor in Statistics *Expected May 2026*
GPA: 4.0/4.0
Relevant Coursework: Computer Networks, Database System Architecture & Implementation, Operating Systems, Computer Algorithms, Data Science, Machine Learning, Multimodal Deep Learning, Theory and Methods of Statistics

TECHNICAL SKILLS

Programming Languages: Go, Python, JavaScript, Java, C, SQL, MATLAB
Tools & Frameworks: Thrift, Protobuf, GORM, Kitex, Node.js, Express.js, React.js, Docker
Data Science & Machine Learning: PyTorch, LangChain, pandas, scikit-learn, NumPy, Matplotlib
Databases: PostgreSQL, MySQL, MongoDB, Qdrant

EXPERIENCE

Backend Software Engineer Intern *May 2025 - August 2025 & Returning Summer 2026*
Global E-Commerce Infrastructure, ByteDance (TikTok)

- Developed the internal Journey Builder UI (React) to streamline the configuration of onboarding flows for 250K+ monthly new TikTok Shop creators.
- Enhanced backend features and implemented a metrics endpoint (Go, GORM, Kitex, and MySQL).
- Deployed services through internal CI/CD pipelines and collaborated with the netlink team to resolve infrastructure issues.

Undergraduate Student Researcher *February 2025 - May 2025*
Computer Science Department, University of Maryland (Advisor: Dr. Amol Deshpande)

- Investigated sampling techniques for estimating aggregate queries with expensive predicates evaluated by large language models (LLMs).
- Designed and benchmarked an importance sampling technique against stratified sampling methods.
- Analyzed results in collaboration with advisor; independently drafted research write-up.
- Technical Report: Exploring Importance Sampling for Aggregation on Natural Language Predicates

Teaching Assistant *September 2023 - May 2024*
Computer Science Department, University of Maryland

- Supported CMSC216 (Introduction to Computer Systems) and CMSC132 (Object-Oriented Programming) through office hours, live debugging, and mentoring.
- Helped 100+ students with C and Java projects; graded assignments and exams.

RESEARCH & PROJECTS

Distributed Multi-Region Concurrency Control | *Developer* *February 2025 - May 2025*

- Collaborated with a 4-person team to implement 2PL, Silo-OCC, and Hekaton-MVCC in a multi-writer system.
- Built WAL and proxy-based coordination.
- Benchmarked and compared the performance of the three concurrency control protocols across various workloads.
- Technical Report: Scaling Write Throughput with Validation-Based Approach Between Regions

UMIACS Wiki Chatbot | *Developer* *August 2024 - December 2024*

- Worked as part of a six-person team to convert the University of Maryland Institute for Advanced Computer Studies (UMIACS) Wiki into a chatbot, automating responses for standard support tickets.
- Scraped and parsed wiki content into structured formats using Beautiful Soup for dataset creation.
- Implemented two approaches: retrieval-augmented generation (LangChain, Qdrant) and fine-tuning.
- Technical Report: UMIACS Wiki Chatbot

Doodles and Character Classifier | *Full-Stack Developer and Owner* *July 2024 - August 2024*

- Built a web application using React and Node.js that classifies user-drawn images in real time.
- Trained models using PyTorch on Quick, Draw! (doodles) and EMNIST (letters/digits) datasets.
- Implemented model execution on both the browser and server sides, enabling operations across different environments.
- Live Demo: http://imageclassifier.andrewtheterp.com