Kevin Chong

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Education

University of Maryland, College Park — B.S. in Computer Science, Minor in Mathematics
GPA: 3.9 / 4.00 — Expected Graduation: May 2026
Awards**:** Dean's List, President's Scholarship

Coursework: Computer Systems, Computer Vision, Algorithms, Artificial Intelligence, Linear Algebra, Compilers, Data Science, Applied Probability and Statistics

Technical Skills

Languages: Python, Java, C, C++, Rust, OCaml, JavaScript, HTML, CSS, MATLAB, SQL
Frameworks/Libraries: PyTorch, TensorFlow, Pandas, scikit-learn, OpenCV
Tools: Git, Operating systems (proficient in Unix/Linux environments), AWS, Docker, Kubernetes

Experience

Undergraduate Student Researcher, Robotics Algorithms & Autonomous Systems Lab at UMD, *Fall 2024 – Present*

- Implemented an iterative planning framework that optimized camera angles chosen when constructing a 3D scene of a robot's surroundings, improving test image quality by **10%**
- Currently assisting in the design of an algorithm which takes visual data recorded on a robot and rapidly produces a Gaussian Splat/neural radiance field

Software Engineering Intern, Visalaw.ai**,** *June 2024 – August 2024*

- Deployed an automation tool for legal assistants to streamline document retrieval and entry, reducing manual work by over **90%**
- Designed and implemented an ETL pipeline to collect, clean, and preprocess large-scale textual data for training a language model. Saw up to a **20%** increase in LLM response accuracy

Technical Lead, App Dev Club @ UMD, *January 2025 - Present*

- Working with MITRE to build a malware identification pipeline
- Leading a team of engineers to develop a Retrieval-Augmented Generation (RAG) system, utilizing Elasticsearch to efficiently process user queries and generate concise, context-aware summaries

Projects

Path Planning Drone | OpenCV, NumPy, matplotlib

- Controlled movement of micro drone over wireless connection
- Applied object detection model, YOLOv4-Tiny, to detect and classify objects in drone camera feed
- Created an interface which enabled users to select object of interest for drone to follow autonomously
- Leveraged Kalman Filter to incorporate any noisy movement and uncertainty into calculating optimal drone movements

TailoredTalk | MongoDB, Flask, React Native (Expo), Node.js, Google Gemini 2.0

- Full-stack EdTech cross-platform app that creates language lessons based on user-uploaded media, such as songs or books. Used Expo for the front end, Flask for the backend, and MongoDB for the database
- Used TF-IDF and cosine similarity to extract the most important words/phrases from a piece of media
- Generated flashcards and quizzes from the keywords using Gemini API

LLMaryland | ChromaDB, Meta Llama 3

- Made requests to UMD API for information on courses offered at the University of Maryland, using ChromaDB as the vector database
- Deployed a Llama 3 LLM locally from the Hugging Face platform. Built a Retrieval-Augmented Generation (RAG) model. Used collaborative and content-based filtering to suggest classes to users