

Justin Chen

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Education

University of Maryland	Expected May 2027
Double Major: Computer Science - Machine Learning Track and Business Analytics (GPA: 3.9 / 4.0)	College Park, MD
• Awards: Four-Year UMD President's Scholarship (\$40,000), HackTJ Winner 2023 (300+ participants), HooHacks 3rd Place 2024 (750+ participants), Bitcamp Winner 2024 (600+ participants), Appian Hackathon Winner 2025	

Experience

Appian	June 2025 – Aug 2025
Software Engineer Intern	Mclean, VA
• Deployed and maintained production-grade Kubernetes clusters in AWS using Python , Terraform , Go and Helm	
• Improved network architecture for distributed systems with Kubernetes and Terraform , cutting server load by 18%	
• Led an update to critical Karpenter operator features, making server balancing more efficient and reducing costs by \$11,000 annually	
• Developed and fine-tuned a Retrieval-Augmented Generation (RAG) AI agent leveraging a custom knowledge base to interpret code and automatically generate context-aware documentation updates, reducing update time by 60%	
• Enabled AWS S3 native state-locking by updating DynamoDB tables and S3 buckets , cutting costs by 10%	
General Dynamics Mission Systems	May 2024 – Aug 2024
Software Engineer Intern	Manassas, VA
• Engineered and sustained Java , C++ , and Python software for US Navy data collection and transmission systems	
• Designed a Bash script to verify media (drive partitioning, encryption, filesystems) on thousands of drives to test Johns Hopkins research data.	
• Upgraded software to utilize Java NIO for file I/O operations on digital records, resulting in a 50% speed increase	
• Performed Fortify static code analysis to identify and implement fixes for 30+ identified code weaknesses in C++	
J&J Camp	June 2021 – Aug 2023
Computer Science Instructor	Herndon, VA
• Designed and delivered programming curriculum to students concentrated in Python	

Projects

Dance Computer Vision Analyst – HooHacks 3rd Place Hackathon Finish Python, OpenCV, SQL, YOLO	
• Utilized frame-by-frame computer vision analysis on YouTube videos retrieved from Google API to extract key body positions stored as landmark coordinates into data frames	
• Deployed a live overlay feature capable using pandas dataframe superimposing any YouTube dance onto a webcam feed processing for coordinate positions, SQL querying for accessing coordinates, and a self-trained YOLO AI model for centering overlay onto a person, and cv2 to plot and display points onto webcam feed	
Machine Learning Color Detection Program Python, NumPy, OpenCV, Scikit-learn	
• Architected a machine learning driven color detection system, employing Gaussian Mixture Models trained on a diverse dataset of over 100 images , optimizing 15 critical model parameters	
AI Stock Market Pattern Analysis Trading Bot Python, SQL, PyTorch, Pyplot	
• Leveraged AI and pattern recognition algorithms , coupled with SQL database querying, to perform comprehensive analysis of stock market data. Used data visualization graphs to provide users with user-friendly data analysis	
Computer Vision Mouse Program (Helping Hands) – HackTJ 1st Place Hackathon Finish Python, NumPy, OpenCV	
• Developed a computer vision application in Python , enabling cursor control through intuitive hand motion tracking	
University Class Finder (Connective) – Bitcamp 1st Place Hackathon Finish Python, Flask, React, HTML/CSS	
• Developed a website to connect students enrolled in the same class using Selenium to web scrape class schedules	
• Utilized HTML , CSS , JS , and Rest API to integrate seamless front-end and back-end communication of the website	

Technical Skills

Languages: Python, Java, C, C++, Bash, Go, SQL, JavaScript, HTML, CSS, Kotlin, OCaml, Rust, R, MATLAB

Technologies: Kubernetes, Terraform, AWS, Docker, React, Flask, Unix/Linux, Git, Fortify Static Code Analysis

Relevant Coursework: Artificial Intelligence, Machine Learning, Algorithms, Object-Oriented Programming, Computer Vision, Data Science, Android/iOS App Development, Operating Systems, Database Algorithms