

JAIK 'JJ' MCCAULEY

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Summary

Full-stack engineer, comfortable going wherever the problem leads. LLM fine-tuning, computer vision, production infra, frontend work. I've moved across most of it and am very strong picking up new tools. Seeking a role where that range translates into real ownership.

Education

Salisbury University

Aug 2022 - May 2026

Bachelor of Science, Computer Science, Data Science (GPA: 3.85)

Salisbury, MD

- **Achievements:** Distinguished Computer Scientist Award, Upsilon Pi Epsilon (UPE) President, UPE Academic Achievement Award, Pi Mu Epsilon (PME) Inductee, Chi Alpha Sigma Inductee, Computer Science, Math, & Data Science Club President, CSC Academic All-District Team, NCSM Excellence in Mathematics Award

Experience

Booz Allen

Jun 2025 - Aug 2025

Full-Stack Software Engineer Intern

Annapolis Junction, MD

- Collaborated with two teammates to deliver a real-time cyber-physical analytics dashboard for a federal client, ingesting, processing, and visualizing live network activity from multiple ZeroTier-connected systems via an Elastic Stack pipeline; filtered over 99.9% of irrelevant traffic, improving clarity for non-technical users and reducing analyst review time
- Built a responsive React interface with D3-driven visualizations, simplifying data traffic with intuitive animations
- Implemented a data delivery layer by streaming real-time events via WebSockets and deployed optimized Express REST APIs backed by Redis, enabling rapid configuration and millisecond-level retrieval of live and historical data
- Prepared the application for production deployment by adding an Nginx reverse proxy for secure request handling, systemd service management for continuous uptime, and custom deployment scripts for cross-platform configuration, ensuring reliable operation in a live environment
- Presented the dashboard to a senior military general, receiving enthusiastic approval for performance and usability, securing support for near-term market release

Salisbury University

Aug 2024 - May 2026

Computer Science Department Tutor & Lab Assistant

Salisbury, MD

- Provided conceptual and technical guidance on software engineering principles, artificial-intelligence techniques, and cybersecurity fundamentals to students at all levels, using Python and JavaScript examples and hands-on labs, which helped students grasp core concepts and complete assignments successfully
- Specialized in assisting students in introductory to advanced systems-programming courses on IPC, signals, threading, and data structures, demonstrating code in C on Linux and using debugging tools, which led to clearer understanding of concurrency concepts and higher project scores

Personal Projects

Lunara | <https://github.com/Jairik/RUHealthHack-25>

Oct 2025

- Won 1st place at Rutgers HealthHack 2025 for an AI-powered healthcare triage platform with sub-30-second routing
- Improved routing accuracy by nearly 20% across 140+ medical conditions while ensuring HIPAA compliance
- Developed NLP-based triage models trained on anonymized clinical call transcripts
- Built a full-stack system using React, FastAPI, and AWS with real-time confidence scoring
- Advancing the project under a Rutgers-affiliated completer program, presenting at a healthcare innovation conference presentation

Computer Vision Chick Counting

Dec 2025

- Developed an AI-based computer vision system for automated chick counting in high-throughput poultry settings
- Improved detection accuracy by approximately 2% through iterative model tuning, data refinement, and validation
- Prototyped real-time object detection pipelines using Ultralytics YOLO on Raspberry Pi hardware
- Industry-facing project developed with a commercial poultry partner; closed-source with patent consideration

Parallel Query Processing System | <https://github.com/Jairik/Parallel-Query-Processing-System>

Nov 2025 - Dec 2025

- Designed and implemented a distributed SQL-like query processing engine for large-scale data operations
- Parallelized query execution using MPI and OpenMP in C, achieving significant speedup over serial baselines
- Evaluated scalability through benchmarking of speedup, efficiency, and communication overhead

CapyMorph | <https://capymorph.fly.dev/>

Nov 2025 - Dec 2025

- Designed and deployed a full-stack educational maze game to production using React/TypeScript/Phaser.js and a Go/Gin REST API backed by MongoDB Atlas, containerized with a multi-stage Docker build and auto-deployed via GitHub Actions CI/CD
- Implemented client-side procedural maze generation via Eller's algorithm and A* pathfinding for collectible placement, with difficulty-adaptive level scaling and a Zustand store bridging the Phaser engine and React UI layers
- Built an offline Go question generator seeding 512+ morphology questions across 8 difficulty-tiered families into MongoDB, served at runtime via sample aggregation with difficulty-weighted scoring

Skills

- **Languages:** Python, JavaScript/TypeScript, C/C++, Go, Java, SQL, Bash, PHP, R, HTML & CSS
- **Web & Application Frameworks:** React, Express, FastAPI, Flask, Gin, Tailwind, Bootstrap, Phaser.js
- **Data Visualization & Graphics:** Plotly, D3.js, Three.js, Chart.js
- **Databases & Data Stores:** MySQL, PostgreSQL, MongoDB, Redis, Neo4j (AuraDB)
- **Data Science & Data Processing:** Pandas, NumPy, Scikit-learn, TensorFlow, Feature Engineering, ETL Pipelines
- **Cloud & Infrastructure:** AWS, Docker, Fly.io, Firebase, Linux, WebSockets, Raspberry Pi
- **Tools & Practices:** Git, Agile/Scrum, CI/CD Pipelines, Automated Testing, Vite, Swagger UI, LaTeX, WordPress