

Arnav Gowda

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EDUCATION

University of Maryland, College Park || College Park, MD

B.S. Computer Science spec. Machine Learning, Applied Mathematics

GPA: 3.51, Dean's List

Relevant Coursework: Data Structures and Algorithms, Object-Oriented Programming, Information Systems, Database Design, Multivariate Calculus, Linear Algebra, Advanced Statistics, Differential Equations, Computer Systems, Real Analysis, Data Science

WORK EXPERIENCE

Ivoyant: Software Engineering Intern || Atlanta, GA

Summer 2025

- Designed and deployed RESTful APIs using Java and SQL to enable real-time communication across Data Mapper, an AI-driven data conversion platform, reducing data retrieval latency by 40%.
- Migrated legacy infrastructure to Azure App Services and Azure Functions, building microservices for the Data Mapper platform that enhanced scalability and improved deployment speed by 35%.
- Implemented Agile workflows and CI/CD automation using Jenkins and Azure DevOps Server, improving system reliability and speeding up Data Mapper release cycles

UMD: AI Research Intern

- Collaborated with a professor and PhD researchers to build ML-based simulators in PyTorch and BioPython, accelerating multi-scale cell growth modeling by 10× compared to traditional PDE-based methods
- Developed spatiotemporal models using ConvLSTM and graph neural networks to simulate nutrient diffusion, mitosis, and intercellular signaling, leveraging PyTorch and OpenMM for efficient simulation.

PROJECTS/RESEARCH

Black-Scholes Options Pricing Model

- Built a Black-Scholes pricing engine in Python using NumPy/SciPy to compute analytical values for European options, achieving <0.1% deviation from market benchmarks.
- Engineered a vectorized batch-pricing module to value 20,000+ contracts in under 0.5s

Last-Mile Delivery Platform

- Developed a microservices-based supply-chain delivery platform with 9 backend services (orders, routing, GPS, driver, customer, etc.) using Java Spring Boot, PostgreSQL, MongoDB, and Redis on AWS Cloud
- Implemented secure, event-driven REST APIs with OAuth2, RabbitMQ, Kafka, REST Template, and Spring Cloud Gateway, enabling real-time service communication with <100ms latency.
- Deployed to AWS using Docker Compose, set up S3 for image storage, and integrated observability tools (Micrometer, Prometheus, Jaeger) to achieve 100% uptime under extreme data loads.

AI Blackjack Card Counter

- Developed an AI-powered blackjack simulator in Python using TensorFlow and PyTorch to learn optimal play strategies with a custom data pipeline to compile game outcomes in JSON format, enabling supervised and reinforcement learning with policy/value networks.
- Trained and tuned model through hyperparameter optimization and reward-based exploration; used R for statistical modeling and EV tracking, ultimately achieving a +2.2% EV/hr in simulated casino environments.

SKILLS

- Java, Python, C++, JavaScript, SQL (PostgreSQL, MongoDB, Redis), R
- Spring Boot, Node.js, React, TensorFlow, PyTorch, NumPy, SciPy, JUnit, BioPython
- Microsoft Azure, Azure Functions, AWS (S3, EC2), Docker, Jenkins, Azure DevOps Server
- Git, RabbitMQ, Kafka, OpenMM, Prometheus, Jaeger, Micrometer, Docker, Kubernetes, Postman
- Microservices Architecture, RESTful APIs, CI/CD, Reinforcement Learning, Graph Neural Networks