ADI ARORA

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EDUCATION

Virginia Tech Blacksburg, VA

Bachelor of Science, Data Science and Economics *August 2024 – May 2028*

Coursework: Data Structures and Algorithms, Advanced Programming in Python, Probability and Statistics, Machine Learning

WORK EXPERIENCE

Marriott International, Platform Generative AI Bethesda, MD

Associate Software Engineer, Part-Time *August 2026 – Present*

- Retained from the summer cohort into a **part-time role** on the platform team through the academic year, owning scoped features end to end, reviewing pull requests in Git, and shipping production changes against live **Agile** sprint commitments alongside full-time engineers.

Software Engineering Intern *June 2026 – August 2026*

- Scaled a **Java** and **Spring Boot** backend from **36 to 250** classes and **6 to 105 REST** endpoints across **5** modules, working in an **Agile** team through daily standups, sprint planning, peer code review, pair debugging sessions, and unit testing coached by senior engineers on the wider platform team.
- Redesigned service-to-service communication onto a shared inbound adapter in a **ports-and-adapters** architecture, cutting the code required to onboard a new service by **74%** and eliminating transport logic duplicated independently across every module in the platform.
- Built an automated end-of-day financial close pipeline with **deterministic balance checks** that halt the run and flag the unaccounted discrepancy, plus a **React** operations console giving support engineers live service activity and a single-trace-ID **audit log** for every run processed.
- Deployed **Docker** services to **AWS EKS** through Harness **CI/CD** pipelines behind automated health and performance probes, backed by **PostgreSQL** retrieval indexed over **147** files and **Redis** caching that kept repeat lookups off the production database entirely.

Lombardi Comprehensive Cancer Center Washington, DC

Research Intern, Data Analytics (Immuno-Oncology) *June 2024 – August 2024*

- Analyzed **flow cytometry data** in Python (pandas, NumPy) and authored drafts of the **peer-reviewed Biomedicines review** below.

OPEN SOURCE

AWS Kiro Crew — kirodotdev/KiroCrew, open-source developer platform August 2026 – Present

- **Top 10 of 125+ contributors**, with **23 merged pull requests** and **50+ commits** reviewed by maintainers, including a scheduler re-arm fix that removed cron runs starting up to **30 seconds** late and a race-condition fix that stopped stale message caching during concurrent rewrites.
- Stabilized CI and hardened the runtime — replaced wall-clock timing in flaky async tests with event-based waits, fixed a Windows file-handling bug, attached an **AppArmor** security profile to the systemd service, and aligned UI copy across all **11 translated locales** the product supports.

PROJECTS

SmartFolio — AI Portfolio and Stock Analysis Platform April 2026 – Present

- Built and deployed a full-stack **React/TypeScript and FastAPI** investment-intelligence platform with a managed Postgres database, live market data feeds, Plaid portfolio sync for real account holdings, and scenario modeling tools built for everyday retail investors.
- Engineered an **8-stage** backend workflow spanning data resolution, parameter estimation, probabilistic forecasting, backtesting, and portfolio simulation, with deterministic code computing every financial metric shown to end users on the investment dashboard itself.
- Hardened production with rate limiting, request-ID logging, and Sentry instrumentation, and gated every release behind **CI/CD** running **104 unit and integration tests**; ran a pilot with **50+ users** whose simulated portfolios returned measurable modeled gains overall.

What Is This — Object Recognition PWA and Chrome Extension June 2026 – Present

- Built and deployed a **Next.js/TypeScript** web app and companion **Manifest V3 Chrome extension** that identify objects **fully on-device** via **MobileNetV2** running on **ONNX Runtime**, with lazy-loaded barcode and OCR recognition paths for lower-end devices.
- Containerized a **Python/FastAPI** inference service as a **non-root Docker** deployment, hardening the public API with payload validation, **rate limiting**, provider timeouts, bot protection, and structured request logging on every inference call made against the service.
- Modeled durable client state in **versioned IndexedDB** with schema validation and legacy migration, plus **PostgreSQL**-backed auth under **row-level security**; verified with **Playwright** end-to-end accessibility and layout tests across both mobile phone and desktop browser viewports.

TECHNICAL SKILLS

Languages: Java, Python, TypeScript/JavaScript, SQL, Bash
Frameworks & Libraries: Spring Boot, React, Next.js, Node.js, FastAPI, pandas, NumPy, scikit-learn
Cloud & DevOps: AWS (EKS), Kubernetes, Docker, CI/CD (GitHub Actions), Harness CD, Git, Agile
Databases & Systems: PostgreSQL, Redis, REST APIs, microservices, distributed systems, unit and integration testing
AI/ML: LLM APIs, agent orchestration, MCP/A2A, RAG, ONNX Runtime

PUBLICATION

Blood Pressure Variability (BPV) as a Novel Digital Biomarker of Multisystem Risk and Diagnostic Insight: Measurement, Mechanisms, and Emerging Artificial Intelligence Methods January 2026

***Biomedicines**, 14(2), 317 · Research conducted at Lombardi · doi.org/10.3390/biomedicines14020317*