Aadvait Hirde

ahirde@iu.edu | (812) 947-8569 | github.com/Aadvait-Hirde | linkedin.com/in/aadvait-hirde | aadvait.com

EDUCATION

Indiana University, Bloomington   **Bloomington, IN**
B.S. in Computer Science (AI & SWE Specialization), Minors: Business, Data Science   2023 - 2027
GPA: **3.59** / 4.00
・Global Engagement Scholar (**$40,000**)・Hutton Honors Scholar (**$12,000**)・Dean's List (3x)・Luddy Direct Admit
Relevant Coursework: DS&A, AI, OOP, Discrete Math, Data Analysis and Mining, Database Concepts, Managerial Economics, Operations Management, Accounting

LEADERSHIP

Kappa Theta Pi - Alpha Eta   **Bloomington, IN**
President   Jan 2025 - Present

・Founded and led IU's chapter of KTP (**the nation's largest tech fraternity**), growing to **75+ members** and managing an executive **board of 15** with a **$10K budget**.
・Managed internal ops, marketing campaigns with **100K+ impressions**, partnerships with 5 companies and 8 clubs, university recognition, and national communication.
・Co-directed an interdisciplinary case competition. Partnering with **Meta**, **Humana, n8n**, **Google**, **Accenture** and **Woz** (YC W25) for speaker sessions, workshops.

EXPERIENCE

Kelley School of Business - Data Science and Artificial Intelligence Lab   **Bloomington, IN**
Research Assistant   Aug 2025 - Present

・Built **LLM-VulnBench**, a 100K+ sample benchmark evaluating GPT-5, Gemini, Claude, and CodeLlama code for CWE/CVSS vulnerabilities using Semgrep.
・Developed a **Docker-based pipeline** for secure LLM code generation and static analysis, cutting evaluation latency by 4× while ensuring full sandbox isolation.
・Applied **ANOVA and logistic regression** to identify model, prompt, and IDE factors driving insecure code across 10+ LLM ecosystems.

Cognizant   **Dubai, UAE**
Machine Learning Intern   May 2024 - Aug 2024

・Developed a scalable **RecSys** with **Python, TensorFlow, and PyTorch**, improving custom recommendations for **100K+ DAUs**. Deployed via **Flask** and **FastAPI**.
・Designed, implemented feature engineering pipelines to process large-scale datasets **(5TB+)** using **Apache Spark and Pandas**, reducing preprocessing time by **30%**.
・Conducted model performance analysis using **precision, recall, F1 score, and ROC-AUC** metrics, achieving a **~12% improvement** over baseline models.
・Fine-tuned state-of-the-art transformer models **(BERT, GPT)** for text classification tasks, achieving a **95% accuracy rate** in **sentiment analysis** for user reviews.

MyCaptain   **Dubai, UAE**
Software Development Intern   May 2023 - Aug 2023

・Architected a real-time app for **50K+ DAUs** using **Next.js 13, tRPC, shadcn/ui, Prisma, Postgres, and TypeScript**, with server-side streaming for live data updates.
・Modernized a faulty microservices system with **NestJS and RabbitMQ**, achieving **99.99% uptime** and handling **100+ req/sec** with **zero message loss** in production.
・Implemented **RBAC**-secured auth with **NextAuth.js** v4.22, integrating **OAuth 2.0** providers and encrypting sensitive data using JWE for production-grade security.
・Created scalable payment infra with Stripe API, using webhooks, ensuring **PCI-DSS** compliance. Optimized checkout with Stripe Elements, cutting failures by **25%.**
・Deployed infrastructure on **AWS (EC2 + S3)** with **Terraform** IaC, implementing blue-green deployments and achieving a **40% reduction in deployment time**.

PROJECTS AND RESEARCH

KTP Indiana Website & Member Portal   Jun 2025 - Jul 2025
Website・Website Repository

・Replaced Framer site with a scalable fraternity website using **Next.js 15, TypeScript, and Tailwind CSS,** serving **75+ members** with **Clerk + Supabase** RBAC auth.
・Created a real-time internships board syncing **500+ listings/day** from GitHub via **cron jobs**, with markdown parsing, 1-hour caching, and automated Vercel updates.
・Engineered dynamic UI with **Radix** primitives, infinite scroll carousels, responsive design patterns and custom animations, streamlined for smooth desktop/mobile UX.
・Developed a full-featured **member portal** with real-time announcements, **GCal sync**, merch store, payment gateway, alumni directory, and a **5-role RBAC** system.

Forecasting Cryptocurrency Prices with Transformers and Stance Detection   Jun 2022 - Nov 2022
IEEE Xplore・PDF

・Fine-tuned **RoBERTa** for stance detection on 50K+ Bitcoin-related tweets, achieved **80% sentiment accuracy**, **$1144.85 MAE** in price prediction with tweet polarity.
・Preprocessed collected data with **sklearn**, then aligned social and market data with the **Twitter API** and yfinance, integrating with Bitcoin prices over a 3-month span.
・Achieved baseline **78% logistic regression accuracy,** trained RNNs using Adam optimizer, used **GridSearchCV** and Bayesian tuning for further model improvement.

The Locus Project   Aug 2022 - Nov 2022
Article・GitHub Repository

・Built an **AR indoor navigation app** in **Unity** using **C#**, AR Foundation, ARKit/ARCore, and Depth APIs; enabled real-time pathfinding with **<1m location accuracy**.
・Architected a **scale 3D campus model** and QR-based tracking system, mapping **200+ classrooms** to navigation targets via **scene management and line rendering**.
・Engineered AR interactions, object placement, and UI flow across **100+** unique scenes, tested system latency and path precision across **iOS & Android** environments.

SKILLS AND CERTIFICATIONS

Languages & Frameworks: Java, Python, TS, JS, HTML, CSS, SQL, Racket, React, Next.js, Vue.js, Node.js, Express.js, Tailwind, Bootstrap, Shadcn/ui, Radix, GSAP
Tools & Infra: Prisma, Drizzle, Supabase, Clerk, Zustand, Zod, tRPC, Stripe, RabbitMQ, GraphQL, AWS, GitHub, MLFlow, OAuth, RBAC, LangChain, Pinecone
ML & Software: TensorFlow, PyTorch, Keras, Scikit-learn, Pandas, NumPy, Matplotlib, Unity, Adobe Suite, DaVinci Resolve, FL Studio, MS Office