

Aaryan D. Wadhwani

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Versatile software engineer with expertise in full-stack development, systems programming, and applied AI/ML, leveraging C++, Python, React, and cloud platforms to build scalable, data-driven solutions. Learn more @ aaryanwadhwani.dev.

EDUCATION

Purdue University (West Lafayette, IN) | GPA: 3.93/4.00 | Dean's List Aug 2023 - May 2027
B.S. Computer Science & B.S. Artificial Intelligence | Minor: Mathematics | Certificate: Applications in Data Science

EXPERIENCE

Undergraduate Data Scientist Aug 2025 - May 2026

Microsoft

West Lafayette, IN

- Conceptualized and delivered AI-powered outcomes from publicly available datasets related to Minecraft content creation and distribution.

Undergraduate Teaching Assistant

Aug 2025 - Dec 2025

Purdue University - CS 251 (DSA), CS 253 (DSA for DS/AI Majors)

West Lafayette, IN

- Guided over 800+ collective students for assignments and project implementations of core algorithms (trees, graphs, heaps, hashmaps). Graded assignments, hosted PSO sessions and office hours for 200+ students.

Software Engineering Intern

May 2025 - Aug 2025

Uniloy Inc.

Tecumseh, MI

- Built an internal issue-tracking journal and incorporated a fully local RAG pipeline (FAISS, MiniLM, Ollama) to accelerate troubleshooting and reduce repeat queries.
- Automated global translation setup with Python scripts, cutting localization effort by over 65%.
- Engineered a lightweight server to enable real-time communication ($\sim 0.1s$) between incompatible control systems.

Undergraduate Research Assistant | AVL Fast-Hash | Dr. Rodriguez-Rivera

Oct 2024 - May 2025

Purdue University

West Lafayette, IN

- Engineered a cache-aware AVL tree achieving $1.3\times-2.1\times$ speedups and memory usage over standard C++ implementations on benchmarks with over 500 000 keys using modern computer architecture.
- Developed a Google Benchmark micro-suite to compare against Java HashMap, V8 Dictionary, and others.
- Integrated AVL-based buckets into hash tables (AVL Fast-Hash) guaranteeing worst case $O(\log n)$ operations.

Data Engineering Intern

May 2024 - Aug 2024

LTIMindtree Ltd.

Mumbai, India

- Implemented Redis-backed caching layer for SharePoint search, cutting median latency 28% for $\sim 2k$ daily users.
- Added CI workflows with GitHub Actions, cutting post-merge defects 35% and accelerating deployment cycles.

Undergraduate Data Scientist

Aug 2023 - May 2024

Caterpillar Inc.

West Lafayette, IN

- Scraped, cleaned, and joined over 60 years of global supply-chain data (2,000,000x40 entries) on 7+ key indicators.
- Trained PyCaret + Prophet pipeline approximating project related risks based on this 60-year series.
- Created an interactive PowerBI dashboard delivering live data, and real-time feedback about supply chain issues.

Web Developer Intern

Jun 2023 - Jul 2023

WB Hotels & Resorts

Mumbai, India

- Shipped responsive awards page (React + Tailwind) and merged into website, showing company achievements.
- Integrated Google Places search, reducing home-page bounce rate by over 12%.

PROJECTS

StockSage AI | Python, TensorFlow/Keras, scikit-learn, Prophet, NLTK/TextBlob

Mar 2025 - Jul 2025

- Built an ensemble forecasting pipeline (LSTM, XGBoost, ARIMA) with 10+ indicators (e.g. RSI, MACD, Bollinger Bands), achieving 89.5% accuracy, and 5% above the best single model.
- Incorporated real-time sentiment scoring (NLTK/TextBlob) using NewsAPI boosting model performance by 30%.
- Developed a Plotly Dash dashboard featuring live data streams, dynamic model presets, and a 5-min TTL cache.

Systems Projects | C, C++, Bash, Flex, Bison

Sept 2024 - Apr 2025

- POSIX Shell:** implemented job control, pipelines, background execution, subshells, wildcard expansion, tab completion, and command history; passed 78 unit tests with 100 % success.
- Simple-C Compiler:** parses C code, and generates optimized x86-64 Assembly while achieving times 5-15% faster than GCC and Clang.

AtariRL | Python, PyTorch, TensorBoard, OpenAI Gym, NumPy

Nov 2024 - Feb 2025

- Implemented a PyTorch DQN framework for 50+ OpenAI Gym Atari games with experience replay and target-network updates with automated checkpointing every 1,000 episodes for seamlessness.
- Logged rewards, losses, and exploration rate to TensorBoard for real-time hyperparameter tuning and monitoring.
- Created advanced visualizations to expose which game regions drove the agent's decisions and other analysis.