Arnav Daryani

+1 (630)-822-6508 | arnavdaryani@gmail.com | linkedin.com/in/arnav-daryani | github.com/arnavdaryani

Education

Purdue University August 2023 – May 2027
Bachelor of Science in Computer Science, GPA: 3.86/4.00 *West Lafayette, IN*
Relevant Coursework: Analysis of Algorithms, Data Mining & Machine Learning, Systems Programming, Data Structures and Algorithms, Computer Architecture, Information Systems, Object-Oriented Programming

Experience

Incoming Software Engineer Intern - Indirect Tax Technology June 2025 – August 2025
Ernst & Young LLP *Chicago, IL*
- Platform Development (Summer 2025)

Undergraduate Teaching Assistant - Computer Architecture January 2025 – Present
Purdue University *West Lafayette, IN*
- Led weekly labs and office hours for 700+ students, improving comprehension of computer architecture concepts including digital logic, circuits, compiler creation, and ARM assembly programming.

Undergraduate Research Assistant - VIPER Lab August 2024 – December 2024
Purdue University *West Lafayette, IN*
- Developed an Android application to capture chessboard images, detect piece positions, and identify piece types.
- Applied Canny Edge Detection and Otsu's Thresholding to map chess pieces, refining processing accuracy.
- Engineered a Contour Edge Detection algorithm with 95% accuracy on 200+ images for empty-square detection.
- Trained and optimized a CNN with TensorFlow, reducing classification errors through confusion matrix analysis.

Software Engineer Intern June 2024 – August 2024
Ciena *Remote*
- Reduced manual testing effort by 30% and improved accuracy by automating IS-IS protocol tests with Python.
- Configured and optimized IS-IS for IPv6, enabling dual-stack integration and boosting routing efficiency.
- Developed comprehensive IPv6 test cases that doubled test coverage and enhanced system reliability.

Undergraduate Research Assistant August 2023 – May 2024
Caterpillar Inc. *West Lafayette, IN*
- Built a data pipeline with R and Pandas to analyze 7 key indicators impacting supply chain efficiency.
- Imputed missing data using PyCaret, improving data completeness by 25% and enhancing risk model accuracy.
- Created a PowerBI dashboard delivering live risk forecasts, enabling proactive supply chain issue management.

Projects

UNIX Shell | *C, C++, Flex, Bison, UNIX* May 2025
- Engineered a UNIX shell interpreter with support for complex command parsing and subshell execution.
- Integrated wildcard expansion using C++ regex to execute commands on multiple files simultaneously.
- Designed a feature rich line editor supporting command history, path completion, and prompt customization.

MotionPose | *Python, OpenCV, PyTorch, YOLO, WebSocket API* Apr 2025
- Developed a web application that uses deep learning to integrate pose estimation into live performances
- Built a real-time 3D pose pipeline using YOLOv8 and OpenCV, streamed via WebSocket for low-latency output.
- Utilized MTCNN and InceptionResNetV1 in PyTorch to assign persistent face IDs for multi-frame tracking.

InvisiConnect | *MongoDB, Express.js, React.js, Node.js, Chart.js* March 2025
- Developed a full-stack MERN web app to automate event workflows for IIAN, reducing manual overhead.
- Built an organizer dashboard with real-time analytics to improve engagement tracking and decision-making.
- Created scalable REST APIs to handle member registration, approval, attendance, and feedback collection.

Technical Skills

Languages: Java, C, C++, Python, TypeScript, JavaScript, HTML/CSS, R, x86-64 Assembly
Frameworks: React.js, Node.js, Express.js, MongoDB, SQL, TensorFlow, PyTorch, Pandas, NumPy
Tools: Git, UNIX, Microsoft Azure, Firebase, Google Cloud, Jira