Dhruv Chaudhary

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EDUCATION

Purdue University — West Lafayette, IN
Bachelor of Science in Computer Engineering — *Aug 2021 – May 2025*
Relevant Coursework: Data Structures and Algorithms, Operating Systems, Communication Networks, AI/ML, Microprocessor Systems, C++ OOP, Python for Data Science, Digital Systems Design, Signals and Systems.

EMPLOYMENT

SeaTec Consulting — Bellevue, WA
Aerospace and Defense Intern I & II — *May 2022 – Aug 2023*
- Saved over **10,000 labor hours across the program** by automating Boeing's IP documentation review with a Python/VBA pipeline that processed 18K+ technical files, reducing the contract-allocated 6-hour review per document to under 1 minute.
- Created automation scripts in Access and Excel to streamline configuration management workflows and error tracking for aircraft system documentation.
- Streamlined airspace data-sharing documentation for NASA's Urban Air Mobility Challenge by consolidating cross-team research and verification workflows.

ENGINEERING EXPERIENCE

Senior Design: Object Detection Drone — West Lafayette, IN
Communications and Embedded Systems Lead — *Jan 2025 – May 2025*
- Achieved stable 3 km Sub-GHz image transmission at 1 Mbps by designing a custom packet protocol and embedded C firmware on the TI CC1312R.
- Integrated Python-based compression and reliability testing to improve throughput and minimize data loss.
- Led communications development, coordinating RF integration and firmware across a four-person team.

Engineering Projects in Community Service (EPICS) — West Lafayette, IN
Project Partner Liaison — *Aug 2021 – May 2022*
- Translated client therapy goals into engineering deliverables by leading collaboration with a hippotherapy organization serving children with special needs.
- Developed servo-controlled assistive robotics with embedded C and sensor-actuator interfacing, ensuring reliability.
- Presented functional prototypes to 500+ attendees at Purdue Space Day, demonstrating real-time motion control.

PROJECTS

NPM Package Rater / NPM Clone | *TypeScript, AWS Services, GitHub Actions* — Aug 2024 – Jan 2025
- Migrated package evaluation logic to **AWS Lambda**, refactoring modules for execution with API Gateway, S3, and DynamoDB integration.
- Implemented and maintained **CI/CD pipelines** using GitHub Actions to automate Lambda deployments and minimize manual configuration.
- Developed structured logging with **Winston** and integrated **Jest** testing for functionality and accessibility validation.
- Collaborated on modular system design linking AWS services, improving reliability and scalability of the package analysis prototype.

Data-Regularized Q-Learning in Snake | *PyTorch, Reinforcement Learning* — Jan 2025 – May 2025
- Increased model stability and convergence speed by implementing and benchmarking multiple RL algorithms in a custom Snake environment.
- Demonstrated 25% faster learning and higher score stability with DrQ versus baselines, publishing results in an ICML-style paper and live demo.

TECHNICAL SKILLS

Languages: C, C++, Python, TypeScript, Java, MATLAB, RISC-V Assembly, LaTeX
Software Engineering: Distributed Systems, REST APIs, CI/CD, AWS, Testing (Jest), Logging (Winston)
Tools: Git, Node.js, Linux, VS Code, IntelliJ, RESTler, GDB, Valgrind, Agile Development
AI/ML: PyTorch, Model Training, Data Augmentation, Reinforcement Learning
Awards: Purdue Dean's List (Dec 2021), Perfect Volunteer Attendance – Outdoors for All / Special Olympics (2020)