Devansh Khandelwal

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Education

Purdue University West Lafayette, IN
BS in Computer Science (Minors in Math & Behavioral Economics) (GPA: 3.83 / 4.00) *May 2027*
- **Graduate Coursework:** Robotics, Computer Vision, Deep Learning, Real Analysis, Algorithms

Experience

Software Engineer Intern May 2025 – Aug 2025
Tata Consultancy Services *Oakland, CA*
- Developed Python REST APIs handling 5k+ concurrent requests, improving system reliability under production load.
- Designed PostgreSQL schemas and optimized queries, reducing production query latency by 30%.
- Deployed containerized microservices using Docker on AWS, enabling scalable, production-ready deployments.

Machine Learning Research Assistant May 2025 – Present
Purdue Engineering (Weather Climate Dynamics Lab) *West Lafayette, IN*
- Implemented spatio-temporal CNN models for multi-day climate forecasting, achieving strong balanced accuracy on validation data with lead times up to 12 days.
- Improved model training efficiency by 40% by building reproducible PyTorch pipelines with experiment versioning and multi-threaded data loading, scaling to 165K+ samples.
- Enhanced model transparency and research iteration by applying explainability methods (Grad-CAM, LRP, Integrated Gradients) to analyze spatial attributions and present model insights to climate scientists.

Software Engineering Teaching Assistant Jan 2025 – May 2025
Inari (Data Mine Corporate Partner) *West Lafayette, IN*
- Defined the core team project, defining problem scope, technical requirements, division of labor and success metrics.
- Debugged codebases and course infra issues, resolving build, dependency, and deployment failures under tight deadlines.

Lead Software Engineer Aug 2024 – May 2025
Hack the Future at Purdue *West Lafayette, IN*
- Led 10-developer team building MERN event platform with real-time analytics and calendar integration for 200+ participants.
- Ran Agile sprints and code reviews; mentored developers on Git workflows, REST APIs, and scalable backend design.

Teaching Assistant Aug 2024 – Present
Purdue Computer Science *West Lafayette, IN*
- Supported 2,000+ students across OOP, discrete math, and C programming via labs, office hours, and live debugging.
- Authored and maintained Data Structures & Algorithms assignments to assess student understanding and performance.

Data Science Research Assistant Jan 2024 – May 2024
Cisco (Data Mine Corporate Partner) *Remote, USA*
- Deployed hierarchical forecasting models in Python, improving accuracy by 15% across regional product demand forecasts.
- Built automated ETL pipelines for KPI reporting, reducing manual analysis time by 30% and improving data consistency.

Selected Projects

Artemis (**1st Place, DubHacks 2025**, University of Washington, Seattle) | *Electron, Python, Kotlin, OpenCV*
- Applied computer vision models (OpenCV + deep learning) for real-time gaze inference, enabling adaptive interaction.
- Developed Kotlin-based Android client enabling bandwidth throttling and adaptive notifications to sustain deep work.
- Integrated cross-platform orchestration between desktop and mobile clients with low-latency event handling.

Metis (**Won $3,000, Burton D. Morgan Business Concept Competition**) | *Node.js, Generative AI, Supabase, Anthropic*
- Built generative AI platform using LLMs to transform unstructured ideas into structured PRDs and roadmaps.
- Engineered prompt pipelines, evaluation heuristics, and iterative refinement loops for controllable generation.

Technical Skills

Languages: Python, Java, C++, C, JavaScript, TypeScript, SQL, Bash
Backend & Systems: REST APIs, Distributed Systems, API Design, CI/CD, Docker, AWS
Machine Learning: PyTorch, TensorFlow, scikit-learn, Computer Vision, Deep Learning
Data & Storage: PostgreSQL, MongoDB, Supabase, Firebase, Redis, ETL Pipelines
Frontend & Apps: React, Next.js, Node.js, Express.js, Electron, Kotlin