

Vamsi Deeduvanu

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EDUCATION

Purdue University <i>Masters of Science in Computer Science</i>	Aug. 2024 – May 2026 GPA: 4.0/4.0
Purdue University <i>Bachelor of Science in Computer Science</i> <ul style="list-style-type: none">Coursework: OOP, DSA, Computer Architecture, Systems Programming, Compilers, AI, Machine Learning, NLP, Robotics, ML Systems, Randomized Algorithms, Statistical TheoryHonors: Dean's List and Semester Honors (6x), L3Harris Scholarship, UG Research Expo Award	Aug. 2022 – May 2025 GPA: 3.99/4.0

EXPERIENCE

Software Development Engineer Intern <i>Amazon, Project Kuiper</i> <ul style="list-style-type: none">Developed a cost tracing service with RESTful API improving supply chain cost visibility for Project Kuiper.Deployed a scalable serverless data pipeline on AWS achieving sub-10ms queries on millions of cost events.Built an MCP agent using Neo4j and Claude enabling non-tech stakeholders to perform natural language queries.	May 2025 – Aug. 2025 Redmond, WA
AI/ML Intern <i>Volvo Group</i> <ul style="list-style-type: none">Designed an edge AI pipeline to identify service bottlenecks on factory floor using YOLOv8n and PaddleOCR.Developed a live web interface using Streamlit to monitor KPIs such as truck count and takt time on-site.Leveraged VAR and LSTM models to forecast service requests to reduce downtimes and improve service efficiency.	May 2024 – Aug. 2024 Hagerstown, MD
Undergraduate Teaching Assistant <i>Department of Computer Science, Purdue University</i> <ul style="list-style-type: none">Implemented a comprehensive testing framework and grading suite in C for students' programming assignments.Developed Bash scripts and used Git to manage submissions for 700+ students on Purdue's Linux servers.Led weekly lab sessions and office hours for 40+ students enhancing student learning outcomes and grades.	Aug. 2023 – May 2025 West Lafayette, IN
Undergraduate Researcher <i>TinyML/IIoT, Purdue University</i> <ul style="list-style-type: none">Developed a data pipeline to collect and process real-time CNC machine and sensor data using MTConnect.Labelled and annotated sensor data to train a CNN to predict machining failures with > 90% accuracy.	Aug. 2023 – Dec. 2023 West Lafayette, IN
Data Science Researcher <i>Battelle</i> <ul style="list-style-type: none">Conducted research on hyperparameter tuning algorithms for LLMs and established an SOP for future projects.Fine-tuned BioBERT from HuggingFace to accurately identify adverse drug events in electronic health records.Boosted overall f1 score by more than 20% using hyperband and population-based algorithms from RayTune.	Aug. 2022 – May 2023 West Lafayette, IN

PROJECTS

LLM Uncertainty Calibration <i>Python, PyTorch, HuggingFace, scikit-learn, LMDB</i> <ul style="list-style-type: none">Built an LLM calibration pipeline to quantify response uncertainty on real-world tasks during inference.Designed a rigorous scikit-learn evaluation suite to compute error metrics and generate calibration curves.Scaled experiments with LMDB tensor caching and batched GPU inference, speeding up experiments.	Mar. 2025 - May 2025
hirehack <i>Python, JavaScript, PyTorch, HuggingFace, PRAAT, WebSpeech API</i> <ul style="list-style-type: none">Developed an LLM agent to automatically analyze interview performance through a Chrome extension.Integrated facial emotion, prosodic, and lexical features into a multi-modal model to score interview performance.Interfaced Mixtral-7B from HuggingFace API to interpret model output and generate feedback in real-time.	Jan. 2024 - Feb. 2024
cgrad <i>C, C++, cmocka, Deep Learning</i> <ul style="list-style-type: none">Created a lightweight neural network library from scratch in C achieving 96% accuracy on MNIST dataset.Implemented automatic differentiation, layers, activation functions, gradient descent, and regularization options.Automated testing process and ensured functionality by creating unit tests using cmocka framework.	Aug. 2023 – Sep. 2023

SKILLS

Languages: Python, C, C++, Java, SQL, R, CUDA, JavaScript, TypeScript, Smithy, LaTeX, x86-64 Assembly
Developer Tools: Git, Bash, UNIX, MacOS, AWS, Azure, IaC, Docker, Neo4j, REST API, uv, Agile
Libraries: PyTorch, HuggingFace, RayTune, Streamlit, Tensorflow, JAX, LLVM, MLIR, TVM, CDK