Harmya Bhatt

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Education

Purdue University - Main Campus (Graduating in May 2025)

- Major: Bachelor of Science in Computer Science
- Current GPA: 3.80
- Awards: Outstanding Junior in Computer Science 2023-24, Dean's List and Semester Honors (All semesters)
- Relevant Coursework (Graduate Level): Data Mining and Machine Learning, Natural Language Processing, Compiling And Programming Systems, Computational Methods in Optimization

Work Experience

Purdue University West Lafayette, IN (Aug 2024 - Dec 2024)
Head Teaching Assistant for Design and Analysis of Algorithms

- Managed and led a team of 30 TAs for conducting weekly office hours to address student doubts, clarify algorithmic concepts, and provide detailed feedback on assignments and exams
- Developed instructional content including exams and assignments to improve learning outcomes for 430 students

Cohere Health Boston, MA (May 2024 - Dec 2024)
Software Engineering Intern

- Implemented machine learning models in *Python* using *PyTorch* for predicting medical procedure codes using Named Entity Recognition Models and LLMs with RAG retrieval techniques, optimizing care for 275,000+ annual cases
- Developed an ETL pipeline using *Kafka* for real-time data ingestion and *Apache Hudi* for incremental storage, enabling fast queries, real-time analytics and client reporting with a historical data backfill to an S3 Bronze Table
- Delivered 20+ front-end and back-end features using *Java*, *React.js*, *MongoDB* with 95% on-time completion, consistently meeting sprint goals and reducing production bugs by 40% through end-to-end *Cypress* and integration testing

Purdue University - Intelligent Decision Support Systems Research Group West Lafayette, IN (May 2023 - Aug. 2023)
Machine Learning Research Intern

- Developed and trained a Multi-Label Classifier in *Python* using *PyTorch*, *nltk* and *pandas*, integrating it into a microservice architecture using a REST API enhancing overall system functionality
- Deployed *Flask* API on *AWS EC2* instances using *Docker* Container for scalability with a 10% increase in efficiency

Discovery Park at Purdue University West Lafayette, IN (May 2022 - Aug. 2022)
Research Intern

- Created data pipelines using web scraping and data mining frameworks in *Python* using *Selenium*, *pandas*, *Keras* to compile datasets with over 50,000 data points related to product usage
- Developed Natural Language Processing (NLP) Models using *PyTorch* and *scikit-learn* with 85% accuracy in identifying injury cases, categorizing body parts and classifying injury cases deployed using *Docker*

Projects

RAG Assisted Knowledge Distillation Jun. 2024

- Used RAG-assisted teacher models and frameworks like MiniLLM and Distilling Step-by-Step to enhance domain-specific question answering using the SQuAD dataset and Hugging Face models made with *Python*

Indoor Scene Recognition Apr. 2024

- Utilized YOLOv9 to capture object-level details and fed them into a multi-label classification model, creating a novel framework for indoor scene recognition with an average accuracy of 72% using *PyTorch*

Computed Tomography Jan. 2024

- Implementation of tomographic reconstruction used by CT-Scan machines by constructing 2D Fourier Transforms from projections and utilizing their inverse to recreate original object structures made with *Python*

Error Correction in Noisy Channels Dec. 2023

- Designed a sender-receiver model using Huffman encoding for data compression and decompression, with error correction using Parity, Triple Modular Redundancy, and Hamming Codes implemented in *Rust*

Skills

Languages Python, Java, JavaScript, TypeScript, C/C++, CSS, Shell Scripting, SQL
Frameworks PyTorch, scikit-learn, TensorFlow, pandas, NumPy, Spring Boot, Node.js, Vue.js, React.js, MongoDB
Tools AWS (ECS, S3, Lambda, SageMaker), Docker, GitHub, Cypress, Sentry, OpsGenie, ElasticSearch, Kafka