Ellika Mishra

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Education

Texas A&M University, College Station, United States *August 2024 - May 2026*

- *Master of Computer Science*
- Coursework: Machine Learning, Software Engineering, Distributed Systems, Computer Vision, Network Security, High Performance Computing

Pune Institute Of Computer Technology, Pune, India *August 2018 - June 2022*

- *Bachelor of Engineering in Information Technology, Honors in Artificial Intelligence and Machine Learning*
- Coursework Completed: Operating Systems, Object Oriented Programming, Design and Analysis of Algorithms

Experience

Software Developer Intern, Amazon *May 2025-Augurst 2025*

- Adding third-party encounter data for OneMedical patients in a Go-based FHIR server. Performing reconciliations of third-party data into consumable FHIR API endpoints, deployed and managed using AWS ECS for scalable and reliable container orchestration
- Building data integration workflows in Ruby to ingest third-party encounter data into the OneLife service, impacting ~200k patients, and integrating it into the React-based OneLife UI with DynamoDB as the primary database
- Working with AI/ML technologies including Python pipelines, LLM integrations, and internal models to enhance data processing and intelligent decision-making

Graduate Teaching Assistant, Texas A&M *January 2025*

- Teaching assistant for for CSCE 314: Programming Languages, teaching functional programming in Haskell and object- oriented programming in Java

Software Developer, FinIQ Consulting Pvt Ltd *July 2022 - May 2024*

- Developed fullstack brokerage platform with 50k+ users for all asset classes using C++, C# (.Net Core) and Angular, Typescript
- Designed and implemented multi-threaded components for a high-volatility, low-latency trading platform, improving execution speed and throughput under heavy market conditions.
- Built and optimized server-client communication modules for order management, enhancing reliability and scalability. Collaborated with traders and senior engineers to ensure platform performance aligned with financial use-cases.
- Worked across Windows and Unix environments for deployment and testing, following the Agile software development life cycle

Projects

Adversarial Defense in Collaborative Vehicular Perception via Uncertainty Awareness

Technologies: Python, Scikit-learn, Pytorch, LLM *January 2025- March 2025*

- Developed an uncertainty-aware adversarial defense system for collaborative vehicular perception using PyTorch, implementing and diffusion models, achieving 88% detection accuracy with 30-35ms latency
- Integrated a robust consensus mechanism (ROBOSAC-inspired) with adaptive thresholding to identify adversarial attacks across multiple vehicles, maintaining a low false positive rate of 7.7-10.4%

Meal Nutrition Analysis using Multi-Modal Data

Technologies: Python, Scikit-learn, Pytorch *October 2024 - December 2024*

- Developed a multimodal deep learning model to accurately estimate calorie intake using a dataset of 25K samples, achieving a 30% improvement in prediction accuracy over traditional methods
- Integrated CNNs, bidirectional LSTMs with attention mechanisms, and fully connected networks. Achieved a Root Mean Square Relative Error (RMSRE) of 0.35

Skills

- **Programming Languages:** C++, C#, Python, TypeScript, Java, Ruby, Haskell, Go
- **Frameworks and Libraries:** Spring Boot, React, Scrapy, Pandas, Scikit-learn, Pytorch, .Net, Angular, Rails
- **Databases:** MySQL, MongoDB, Elasticsearch
- **Tools and Platforms:** Git, Docker, AWS, Bitbucket, Latex, Jira