

Ninad Deshpande

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EDUCATION

Master of Science in Computer & Information Science (May 2025)
Indiana University - Purdue University, Indianapolis

GPA 3.79

EXPERIENCE

Indiana University Indianapolis
Research Assistant

Indianapolis, IN
Aug 2024 – Present

- Developed a peer-to-peer distributed system, enabling scalable moderation across 4 languages and reducing processing bottlenecks.
- Simulated subject-specific model expertise using SME clustering with BERT and SBERT-KMeans, improving detection accuracy in low-resource languages.
- Enhanced ensemble decision-making by applying incremental learning and trust-weighted consensus, achieving macro-F1 scores of 0.85–0.92 across key language groups.
- Benchmarked over 180 model and ensemble configurations, validating performance improvements in distributed NLP pipelines and preparing findings for academic publication.

University Library, Indiana University Indianapolis
Mailroom Tech Assistant

Indianapolis, IN
Jan 2025 – May 2025

- Processed 1,500+ books and packages by managing library acquisitions mailroom workflows, coordinating deliveries across 5 carrier systems over 4 months.
- Proactively developed Python automation tool using Selenium to streamline OCLC code extraction from MARC records, improving interlibrary loan processing efficiency.
- Automated institutional data parsing from OCLC directories, generating structured CSV/TXT reports that eliminated 90%+ of manual processing tasks.

PROJECTS

AI-Driven Cloud Auto-Scaling System

AWS, SageMaker, Lambda, CloudWatch, Machine Learning

- Reduced operational costs by 15-25% by developing and implementing a time-series forecasting model with Amazon SageMaker to optimize resource allocation.
- Engineered automated scaling pipeline with AWS Lambda, CloudWatch metrics collection, and Auto Scaling groups for predicting CPU usage 15 minutes ahead and adjusting resource allocation accordingly.

Customer Relationship Management: Web Application

PHP, MySQL, Bootstrap, AWS

- Reduced manual efforts by 70% by developed a CRM system using CodeIgniter, PHP, MySQL, and Bootstrap.
- Leveraged AWS for cloud deployment and implemented a real-time analytics dashboard for over 1,000 users.
- Programmed an ML model to predict lead closure, boosting predictive capabilities.

Enigma Machine Simulator

Python

- Simulated the WWII Enigma encryption mechanism with configurable rotor and plugboard settings.
- Built an interactive command-line interface to demonstrate encryption-decryption cycles.
- Added persistent message history and automated cipher routines for usability.

SKILLS

Programming Languages: Java, Python, C/C++, JavaScript, SQL, R

Web, Cloud & DevOps: HTML/CSS, JavaScript, NoSQL (MongoDB), AWS, Git, GitHub

PUBLICATION

- "A Modular Approach to Customer Relationship Management (CRM) Systems"
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