Ninad Deshpande

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EDUCATION

Master of Science in Computer & Information Science (May 2025)   GPA 3.79
Indiana University - Purdue University, Indianapolis

Bachelor of Engineering in Computer Engineering (May 2022)   CGPA 9.25 / 10.00
Savitribai Phule Pune University

EXPERIENCE

Indiana University Indianapolis   Indianapolis, IN
Research Assistant   Aug 2024 – Present
- Advanced multilingual cyberbullying detection by developing 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   Indianapolis, IN
Mailroom Tech Assistant   Jan 2025 – May 2025
- Executed efficient mailroom operations, managing high-volume incoming and outgoing library deliveries.
- 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
- Developed an AI-driven predictive scaling system using AWS services to optimize resource allocation and reduce operational costs by 15-25% compared to traditional auto-scaling methods
- Implemented time-series forecasting model with Amazon SageMaker using Linear Regression to predict CPU usage 15 minutes ahead, achieving macro-F1 scores of 0.85+ across test datasets.
- Engineered automated scaling pipeline with AWS Lambda, CloudWatch metrics collection, and Auto Scaling groups for near real-time resource management.

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
Core Competencies: Machine Learning, Distributed Programming, Database Design, Data Analysis, Predictive Analytics, Time-Series Forecasting, Cloud Computing, Prompt Engineering

PUBLICATION

- "A Modular Approach to Customer Relationship Management (CRM) Systems"
  International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
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