Yashi Yadav

Machine Learning Engineer • Data Scientist • AI Engineer

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SUMMARY

A passionate Machine Learning Engineer and Software Developer with a strong foundation in AI/ML technique and hands-on experience in deep learning and natural language processing. Highly skilled in developing and deploying ML models using TensorFlow and PyTorch. Excited to create solutions using machine learning and deep learning techniques and solve complex problems with cool solutions.

SKILLS

Languages: Python, Java, C++, JavaScript (React.js/Node.js)
AI/ML: TensorFlow, NumPy, Pandas, NLTK, PyTorch, scikit-learn
Cloud & DevOps: Microsoft Azure, Docker, Kubernetes, GitOps, ArgoCD, Git, Gitea
Web Development: FastAPI, RESTful APIs, Microservices
Data & Databases: SQL, MongoDB, PostgreSQL, PowerBi
Operating Systems & Environments: Linux, UNIX, Windows
Specializations: Deep Learning, Natural Language Processing, Data Analytics

EDUCATION

Master of Science in Computer Science   December 2024
Purdue University, Fort Wayne, IN
Relevant Coursework: Applications of Deep Learning, Database Design and Systems, Analysis of Algorithms, Quantum Computing, Full Stack Development, Machine Learning
Awards: College of Engineering Technology and Computer Science(ETCS) Exemplar Award Recipient

Bachelor of Science in Computer Science   May 2023
Purdue University, Fort Wayne, IN
Minor: Mathematics
Awards: Dean's and Semester's Honors List 2021, 2022 | Top 50 Award Recipient | Honor's Pin recipient, 2022

RESEARCH EXPERIENCE

Graduate Research Assistant   August 2023 - December 2024
Purdue University Fort Wayne, IN
- Designing and implementing a deep learning model for steganographic applications using TensorFlow.
- Developed custom DWT-based convolutional layer, improving image hiding capacity by 30% .
- Developed custom layers and loss functions to optimize model performance.
- Created a comprehensive pipeline for dataset preprocessing, model training, and evaluation.
- Developed a novel DWT-based database to optimize the training process.

PROFESSIONAL EXPERIENCE

Software QA Intern   May 2024 - Present
Nokia, Sunnyvale, CA
- Developed RESTful API using FastAPI for XR Edge Cloud management, implementing CRUD operations and ArgoCD integration.
- Engineered backend system for network resource management using Kubernetes custom resources and Gitea.
- Implemented error handling and logging in microservices architecture, enhancing system reliability.
- Developed AI model deployment POC in microservices architecture.
- Implemented FAISS-based vector database, reducing query time significantly.
- Created NLP scripts for network log analysis, speeding up issue identification.

D365 Developer Intern   May 2022 – August 2022
Vera Bradley, Roanoke, IN
- Enhanced Microsoft Dynamics 365 by resolving ITR/Bugs backlogs, improving the overall ERP system.
- Designed Power Automate Flows for alerts on 24 critical Batch Jobs in D365, improving system responsiveness and error handling.

PROJECTS

Adaptive Reading Companion (ARC)   Present
- Creating a Chrome extension to enable bionic reading for people with Meares Irlen syndrome and adding options to assist online text reading for different disabilities.
- Implementing features for font customization, background color changes, focus mode, and text-to-speech to provide options to the end-user.
- Implementing Natural Language Processing techniques for text analysis and vocabulary assistance.

Jerry: The Virtual Assistant   Present
- Creating a virtual voice assistant that uses ChatGPT's API for communication and answering user queries.
- Developing a voice recognition model using PyTorch for accurate voice-to-text conversion, context-aware conversations and task execution.
- Integrating Google's API for web search capabilities and providing a wide range of results when prompted.

Binary Classification of Hateful Speech on Social Media   January 2024 – May 2024
- Developed a scalable content moderation system using CNN, GloVe-enhanced CNN, and fine-tuned BERT models.
- Achieved 93.50% accuracy with the BERT model in classifying harmful content across a dataset of 450,000+ sentences.
- Implemented an efficient matching algorithm to assign content to the most suitable classification model based on complexity.

American Sign Language (ASL) Recognition   August 2023 - December 2023
- Developed a Convolutional Neural Network (CNN) architecture using TensorFlow for real-time hand gesture recognition.
- Utilized parallel processing techniques to pre-process the data and implemented data augmentation techniques to improve model generalization.
- Employed Long Short-Term Memory (LSTM) layers for temporal sequence modeling in video-based ASL recognition.

CERTIFICATIONS
- Neural Networks and Deep Learning - DeepLearning.AI (2023)
- Improving Deep Neural Networks - DeepLearning.AI (2023)
- AWS DeepRacer: Reinforcement Learning - LinkedIn (2023)
- MLOps Essentials: Model Development and Deployment - LinkedIn (2023)

ACTIVITIES
Lead Instructor, Drone Camp   June 2023 - August 2023
Purdue University, Fort Wayne, IN
- Led a team of 5 CS students to successfully design and execute the Drone Camp program
- Developed a Python-based curriculum for drone programming, covering topics such as obstacle avoidance and path optimization
- Mentored 30+ high school students, resulting increased interest in computer science careers