

ARZOO JIWANI

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EDUCATION

Northeastern University, Boston, MA, USA

September 2024-April 2026

Master of Science in Artificial Intelligence

Coursework: Artificial Intelligence, Machine Learning, Algorithms, Information Retrieval, Cloud Computing, PDP for AI

MIT ADT University, Pune, India

August 2020-June 2024

Bachelor of Technology Computer Science and Engineering

SKILLS

AI/ML & Data: Python, TensorFlow, PyTorch, scikit-learn, XGBoost, OpenCV, NumPy, Pandas, FAISS, NLP, LLMs, Prompt Engineering, Matplotlib, Deep Learning

Backend & Systems: Node.js, Java, Spring Boot, REST APIs, SQL, MongoDB, MySQL, Docker

Tools & Platforms: GitHub, AWS, VS Code, Eclipse, Tableau, Microsoft Suite

Professional Skills: Problem Solving, Cross-functional collaboration, Critical thinking, Time management, Communication

PROFESSIONAL EXPERIENCE

SOFTWARE DEVELOPMENT INTERN | DARBY

July 2025 – December 2025 | Boston, USA

- Led the development of the core AI microservices backbone for a Medicare coverage determination platform, architecting scalable Node.js services integrated with a Spring Boot backend via asynchronous callbacks and REST APIs to reliably support long-running (30+ second) AI workflows in a fast-paced production environment
 - Designed Claude AI-driven prompt frameworks and decision logic to extract clinical evidence and adjudicate Medicare coverage eligibility, leveraging FAISS-based vector retrieval to identify relevant NCD/LCD policies and achieving 90%+ accuracy through iterative testing on real patient documents and large-scale analysis of clinical context and HCPCS codes
 - Built and deployed a production-grade AI microservice for Medicare coverage policy identification, processing extracted clinical text, structured JSON inference, and custom HCPCS matching algorithms to reduce end-to-end analysis latency to 30–60 seconds
 - Automated data auditing and quality monitoring pipelines using Python, Pandas, and SQL, fully replacing manual audits with scalable validation, metrics, and visualization workflows, improving reliability and operational efficiency under tight delivery timelines
 - Owned cross-functional technical execution, defining data workflows, validation logic, and API contracts in close collaboration with Product and Engineering teams to translate evolving business requirements into scalable, maintainable AI-driven system design
- Technologies: Python, Node.js, Java, Spring Boot, SQL, Pandas, REST APIs, Docker, Claude AI, FAISS, Git

RELEVANT PROJECTS

RAG-based AI Search Bot for University Research Portal

January 2025 – April 2025

- Designed and developed a Retrieval-Augmented Generation (RAG) search engine integrating RoBERTa-based query expansion and embedding generation to enhance semantic search and query understanding
- Implemented a FAISS-based ranking algorithm to retrieve and rank scraped research data, returning the most relevant results
- Automated the complete NLP pipeline for data preprocessing, embedding generation, and ranking optimization, utilizing vector embeddings and LLM-based query expansion to boost relevance, improving result precision by 40%
- Utilized python and NLP to develop scalable search framework, improving retrieval accuracy and user experience for students

Spotify-Based Concert & Airbnb Recommendation System

February 2025 – April 2025

- Developed a machine learning pipeline utilizing Spotify API to analyze user listening data and determine favorite genre
- Integrated Spotify and Ticketmaster APIs to provide personalized concert recommendations based on user preferences
- Created a predictive analysis model using XGBoost regression on Airbnb dataset to recommend optimal accommodations based on price, location, distance from the concert venue and reviews
- Enhanced model performance and data processing efficiency, achieving 85% boost in prediction accuracy through advanced feature engineering and hyperparameter tuning

AI-Enabled Real-Time Sign Language Interpreter

January 2023 - April 2023

- Developed an AI-powered sign language interpreter using Computer Vision and Deep Learning, converting gestures into real-time spoken words to assist the speech-impaired community
- Processed 2000+ gesture samples, leveraging data visualization tools such as Matplotlib and OpenCV, and optimized the model with data augmentation and improved feature extraction, achieving 90% accuracy for smooth live translations

RESEARCH AND PUBLICATIONS

- Co-authored a research paper titled "Federated Learning and Blockchain: A Novel Framework for Privacy-Preserving Applications," shortlisted for presentation in IEEE ICBDS and set for publication in IEEE Xplore

CERTIFICATIONS

- Data Visualization with Python (IBM)
- Introduction to Machine Learning with Python (Arizona State University)
- Java Programming Masterclass (Udemy)
- Python Certificate (Venus Service Academy)