Abhishek Choudhary

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Education

VIT Bhopal University, CGPA: 8.74/10 — 2022 – 2026
B.Tech - Computer Science and Engineering with specialization in AI-ML — Madhya Pradesh

TECHNICAL SKILLS

Languages & Databases: Java, Python, C++, SQL, MySQL
Frameworks & Libraries: Spring Boot, Angular, WebSockets, Thymeleaf, TensorFlow, Keras, Scikit-learn
Cloud, DevOps & Tools: AWS, Docker, Render, Vercel, Git, GitHub, Postman, IntelliJ IDEA, VS Code, Colab.

EXPERIENCE

Cynapse AI AI/ML Intern — **October 2025 - Present**

- Collaborated in an **Agile team** defining a **3-quarter product roadmap** for a **Gen AI agent**, **projected to boost user productivity by 20-30%** by **integrating and automating workflows** across **15+ enterprise applications**.
- Contributed to scalable data pipelines processing **100,000+ daily events** from **10+ APIs**, directly fueling a **real-time analytics dashboard** and reducing data latency by **40%** via **scalable ETL pipelines**.

PROJECTS

Mancala Game | Java, Spring Boot, WebSocket, AI, Docker, AWS EC2 — **September 2025**

- Engineered a full-stack, real-time web application with **3 distinct game modes**, featuring a low-latency multiplayer experience using **Spring Boot WebSockets (STOMP)** for state synchronization.
- **Formulated** an intelligent, adaptive **AI opponent** with three difficulty levels, capable of evaluating game states to determine optimal, human-like moves without relying on hard-coded strategies.
- Constructed a highly interactive and responsive UI using **Thymeleaf and JavaScript (ES6)** to render game state changes in real-time, implementing over 10 UX enhancements.
- **Provisioned end-to-end cloud infrastructure** on AWS EC2, configuring **VPC Network Security Groups** and a **Caddy reverse proxy** enforcing **SSL/TLS encryption (HTTPS)**.

AI-ML Food Preparation Prediction System | TensorFlow, Keras, Scikit-learn, Python — **June 2025**

- Trained and benchmarked a suite of deep learning models using TensorFlow and Keras, achieving high prediction accuracy with R^2 **scores of 0.85–0.94** across multi-meal forecasts.
- Synthesized a dataset of over 9,000 records to **model complex food consumption correlations** and executed comprehensive data preprocessing, including feature scaling and **one-hot encoding**.
- Optimized model performance through **hyperparameter tuning and early stopping callbacks**, leveraging over **25 input features** like historical consumption and seasonality.
- Quantified the business impact, projecting a **15-26% increase in kitchen resource efficiency** and an **18-25% reduction in food waste** due to precise demand forecasting.

Mess Management System | Java, Spring Boot, Angular, MySQL, Docker — **March 2025**

- Spearheaded the development of a full-stack mess management system to serve over **6,000 students**, engineering a scalable backend and a responsive frontend with role-based access control.
- **Architected 10+ RESTful APIs** for enrollment and billing, designing the backend for future **ML-model integration** while reducing administrative overhead by **16-24%**.
- **Containerized** the application on Render and Vercel for **high availability**, establishing a scalable architecture to support the **outlined roadmap** of future **ML-model integrations.**

ACHIEVEMENTS

- Demonstrated strong algorithmic thinking and proficiency in Data Structures by solving **500+ problems** on competitive programming platforms like LeetCode, HackerRank.
- Successfully managed the end-to-end lifecycle of all major projects, from concept and development to containerization and cloud deployment on platforms like AWS, Render and Vercel.

CERTIFICATIONS

Applied Machine Learning with Python - Used in Food Prediction Project.
Intermediate Machine Learning - Used in Food Prediction Project.