

Tirthraj Bhalodiya

AI & Machine Learning Enthusiast

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Education

PES University, B.Tech in Computer Science and Engineering

Sept 2021 to May 2025

- CGPA: 8.08

Experience

Software Engineer | Full-Time, - Gajabuja

May 2025 - Present

- Shipped gameplay and live-ops features for a mobile word puzzle game using Unity (C#) with .NET-based architecture and reusable manager patterns.
- Integrated backend and data workflows using Firebase (user data persistence) and Redis (Leaderboards), collaborating with server-side APIs and validating endpoints via Postman.
- Configured Sign in with Apple and Google Sign in to enable secure authentication and cross-device progress synchronization.
- Monitored production health by analyzing server logs in Google Cloud Console and tracking crashes via Firebase Crashlytics, improving debugging and release stability.
- Deployed ad monetization via mediation networks Applovin MAX SDK and ironSource LevelPlay, configuring and validating demand sources such as Meta, Moloco, Mintegral, InMobi, DT Exchange, Yandex and Liftoff (Vungle) to improve fill and revenue performance.
- Engineered deep-link/redirection flows using Adjust tracking links to support referral/invite journeys and route users to specific in-game screens via campaign parameters.
- Delivered player-facing system including Daily Login Rewards, rewarded ad flows, rating prompts and gameplay powerups with robust state handling, UI animations and edge-case fixes for production deadlines.

Machine Learning | Internship, - LearnTricks

March 2024 - April 2024

- Created enhanced predictive models for identifying spam content, achieving over 90% precision and slashing unwanted emails reaching user inboxes by 15% during rigorous two-week evaluation periods.
- Analyzed social media content using NLP techniques, extracting insights from over 1,000 posts to identify key trends in consumer sentiment and enhance user engagement strategies for the brand's online presence.

Machine Learning | Internship, - AcmeGrade

July 2023 - Sep 2023

- Designed and implemented a music recommendation system in Python, achieving over 90% recommendation accuracy by leveraging collaborative and content-based filtering techniques. Analyzed user preference data to deliver personalized music suggestions, enhancing user engagement by an estimated 30%.
- Developed a movie recommendation system tailored to individual user preferences, achieving 85% recommendation accuracy. Applied matrix factorization and nearest neighbor algorithms to generate personalized movie suggestions, increasing user satisfaction by approximately 25%.

Projects

Suspicious Activity Recognition in Examination Hall via Dual-Resolution knowledge Distillation and GAN's

Jan 2024 - May 2025 Present

- Introduced an anomaly detection system using Dual-Resolution Knowledge Distillation and GANs, achieving 80% accuracy. Trained a student-teacher CNN model architecture in Python using TensorFlow and Keras to increase detection robustness by 30%.

Yet Another Distributed File System-YADFS (Big Data)

2023

- Built a high-performance distributed file system using Hadoop and Zookeeper, supporting scalable data storage and retrieval across 100+ nodes. Achieved fault-tolerant mechanisms that improved data integrity and got 99.9% system availability, ensuring robust performance under high-demand conditions.

FastAPI User Management CRUD API

2024

- Designed a FastAPI-based CRUD API using an in-memory database, featuring Swagger UI for documentation and a modular structure for scalability. Optimized request handling with Uvicorn. - Python, FastAPI, Pydantic, Uvicorn

Back-Up service using docker and Kubernetes

2024

- Docker, Kubernetes, Python ,Google Drive. - Created an automated backup solution using Docker and Kubernetes, significantly enhancing the data recovery process. This solution reduced downtime by an average of 15 hours per month, enabling quicker restoration of services and ensuring business continuity.

Pharma Knowledge Assistant-LLM Agent

2024

- Established a robust AI system utilizing the Qwen Model and HDBSCAN to streamline pharmaceutical information retrieval, leading to an increase in user satisfaction ratings from 70% to 90% within three months.

Tech Skills

- **Programming Languages & Frameworks:** C++ , C#, Python, C, R, Unity, .NET
- **Backend & Databases:** Firebase, Redis, REST APIs, Server-Side Integration
- **Cloud & Observability:** Google Cloud Console, Firebase Crashlytics, Cloud Logging, AWS (Basics)
- **DevOps & Tools:** Docker, Git, Potman
- **Machine Learning:** Data Science, Machine Learning, Deep Learning, CNN, Recurrent Neural Network (RNN), Natural Language Processing (NLP), Large Language Models (LLM)
- **Big Data & Data Engineering:** Apache Hadoop, Apache Spark, Apache Kafka
- **Additional:** Adjust Dashboard, Ad Mediation Platforms, Live-Ops Tooling, Data Analytics, Graph Neural Networks, Linux

Certifications

- Foundations : Data , Data , Everywhere - Coursera (Google) June 2023
- AWS Educate Getting Started with Storage - Amazon Web Services Jan 2024
- AWS Educate Getting Started with Networking - Amazon Web Services Jan 2024
- AWS Educate Getting Started with Serverless - Amazon Web Services Jan 2024
- Building Recommendation System - Great Learning May 2025
- Problem Solving (Intermediate) - HackerRank April 2023
- A Beginner's Guide to Linux Kernel Development LFD103 - The Linux Foundation March 2023