

TEJASWI MAHADEV

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Profile Summary

- Have expertise in Python, deep learning frameworks, and AI-driven tools.
- Proficient in SQL, MongoDB, Pandas, and NumPy for data manipulation and creating impactful visualizations.
- Experienced in market research, requirement gathering, and qualitative and quantitative analysis.
- skilled in developing creative, user-centric projects with a strong focus on AI technologies.

Relevant Coursework

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|-------------------------------|----------------------------------|-------------------------------|
| • Artificial Intelligence | • Machine Learning | • Natural Language Processing |
| • Advanced Deep Learning | • Data Structures and Algorithms | • Data Analytics |
| • Database Management Systems | • Programming (OOP) | • Operating Systems |

Experience

Portfolio Optimization using Classical and Quantum Machine Learning (Python)

Academic Research Assistant (Dr.Jnan Yalla)

Jul 2024 – Sep 2024

- Researched classical and quantum optimization techniques for financial portfolio management, analyzing a 10-year dataset of 10 stock tickers.
- Improved portfolio metrics, achieving a Sharpe Ratio of 0.97585 and expected returns of 0.30532. Using quantum methods, I minimized volatility to 0.17829.
- Benchmarked performance differences, showing classical methods outperformed quantum methods in 84% of cases for smaller datasets, while quantum methods excelled in complexity handling for larger portfolios.
- Contributed to a research publication on quantum machine learning applications, providing actionable insights for complex financial optimization problems.

Deep Learning Applications in EdTech (TensorFlow and Keras)

Machine Learning Trainee (SmartLearn EdTech)

Jun 2024 – Aug 2024

- Explored convolutional neural networks (CNN) and generative models, collaborating on product development using TensorFlow and Keras.
- Optimized feature extraction algorithms, reducing processing time by 20% and improving model accuracy by 15%.

Healthcare Assistant Chatbot for Symptom Diagnosis (Generative AI Integration)

Project Showcase Participant (IntelliThon, Mallareddy University)

Aug 2024

- Spearheaded the designing and development of a healthcare assistant chatbot for symptom diagnosis using Generative AI.
- Enhanced patient-doctor interactions by integrating advanced AI models, resulting in a 10% improvement in diagnosis accuracy.
- Demonstrated the project at IntelliThon, receiving positive feedback for innovative healthcare applications.

Projects

Movie Recommendation System | Deep Learning , Collaborative Filtering | [Repository](#) | [Demo](#)

- Developed a hybrid recommendation system combining collaborative filtering, content-based filtering, and matrix factorization.
- Achieved an accuracy of 85% using Scikit-learn and Surprise libraries.
- Designed an interactive Streamlit-based user interface for personalized movie suggestions.

CipherSolver | Cryptography, NLP, Python | [Repository](#) | [Demo](#)

Developed a Python-based tool for solving and analyzing cryptographic ciphers, integrating natural language processing for enhanced accuracy.

- Supported ciphers like Caesar, Vigenère, and Substitution with automated encryption and decryption.
- Leveraged NLP techniques (e.g., language modeling and frequency analysis) to identify and interpret cipher text patterns.
- Provided a user-friendly interface for real-time cipher-solving and text analysis.
- Developed interactive text decoding software that streamlined research capabilities, enabling users to analyze 1M+ encrypted messages, and enhancing the team's ability to discover patterns and insights in cryptographic data.

Budget Tracking and Management System | Machine Learning, Data Visualization | [Repository](#) | [Demo](#)

- Created a Python-based tool leveraging machine learning models (SVR, Linear Regression) for predictive budgeting.
- Incorporated Matplotlib and Plotly for intuitive visualizations of spending trends.

CSV Enrichment Tool | AI, Data Processing | [Repository](#) | [Demo](#)

Designed an AI-driven tool to enrich CSV datasets by automating web-based entity searches and extracting relevant information.

- Combined web scraping, large language models (LLMs), and APIs like SerpAPI and Gemini for data enrichment.
- Built a customizable query interface, allowing targeted enrichment based on column data.
- Achieved seamless file upload, processing, and result export through an interactive Streamlit-based dashboard.
- Improved data quality and usability, reducing manual effort by over 80%.

Technical Skills

- **Technical Skills:** Machine Learning, Deep Learning, Generative AI, Natural Language Processing, Data Analysis and Visualization, MySQL, Python Web Development, Google Cloud Platform, Github
- **Frameworks:** Streamlit, Flask, React
- **Programming Languages:** Python, C/C++, JavaScript, Java, SQL, SQLite, MongoDB, Firebase

Education

MallaReddy University

Hyderabad, Telangana

Bachelor of Technology in Computer Science Engineering and AIML

Expected May 2026

Cumulative GPA: 8.98/10

Extracurriculars / Certifications

- AI for Everyone | [View Credentials](#)
- Scalable Machine Learning on Big Data using Apache Spark | [View Credentials](#)
- Introduction to Data Analytics | [View Credentials](#)
- Introduction to Cybersecurity Tools & Cyberattacks | [View Credentials](#)