PRITHVIRAJ VERMA | 9926719150 | prithraj120@gmail.com

COMPUTER ENGINEERING (B.Tech 4Y) | LinkedIn | Github | Portfolio

EDUCATION

Year	Degree/Exam	Institute	CGPIVMarks
2027	B.TECH	IITRAM - 231040012011	8.55/ 10
2022	Board of Intermediate Education	Medicaps International School	88.2%
2020	Board of Secondary Education	St. Paul's Higher Secondary School	86%

INTERNSHIP EXPERIENCE

Research Intern | IIT Delhi **[Jan'25-Present]**

Remote, Delhi

- Developing lightweight CNN and advanced ML/DL models, including Vision Transformers, ResNet, CNN with Self-Attention, and CNN with Bi-LSTM, for classifying Sleep Spindles and K-Complexes.
- Processing EEG signals using techniques like SMOTE and Hjorth parameters for data balancing and feature extraction.
- Utilizing Python and frameworks like TensorFlow and PyTorch for model development and optimization.

AI Developer | Blix Education **[Jan'25-Present]**

Remote, Mumbai

- Developed a self-driving car using a LEGO-based structure integrated with ESP32 modules, ultrasonic sensors, and other electronic components.
- Implemented AI/ML models for object identification, traffic analysis, and sign/signal recognition to enhance autonomous navigation.
- Optimized sensor fusion techniques for real-time obstacle detection and decision-making.

AI/ML Intern | MarkX AI Labs **[Jan'25-March' 25]**

Ahmedabad, Gujarat

- Developed a machine learning and reinforcement learning algorithm for algorithmic trading in the finance industry.
- Designed and deployed a fully automated Telegram bot that analyzes market trends, sets investment thresholds, and provides hourly investment updates.
- Trained predictive models to recognize market patterns and optimize stock trading decisions.

Data Scientist and Analyst Intern | Yads Technology Pvt. Ltd. **[Jun'24-Aug'24]**

Vadodara, Gujarat

- Fetched and integrated 1,000+ news articles, optimizing API performance by 93% into a PostgreSQL database
- Performed data cleaning, analysis, and visualization to generate insights that supported decisions, boosting efficiency by 92% from aggregated news data
- Streamlined data extraction using Python and SQL, reducing time by 46% and creating dashboards that improved client decision-making by 78%.

KEY PROJECTS

AI – Powered Telemedicine Platform --> Sahayak **[March' 25]**

Project:Self Project

- Developed an AI-powered platform for remote healthcare consultations and diagnosis support.
- Built an NLP chatbot for symptom analysis, medicine recognition, and treatment recommendations.
- Integrated video consultations, automated appointment scheduling, and an interactive healthcare map.
- Enabled AI-driven disease prediction using medical image analysis for early diagnosis.

AI Voice Assistant **[Feb' 25]**

Project: Self Project

- Developed a Python-based AI voice assistant capable of speech recognition and voice response.
- Implemented functionalities such as time announcements, joke telling, reminders, web search, and website navigation.
- Improved user experience by optimizing speech speed, volume, and ambient noise handling.
- Utilized Python, pyttsx3, SpeechRecognition, webbrowser, and OpenAI APIs for intelligent task execution.

Sleep Spindle and K-complex Detection Model **[Oct' 24 – Jan'25]**

Project: Research Project

- Developed ViT, TCN, and CNN models for classifying sleep spindles and K-complexes using EEG signals.
- Applied Wigner-Ville Transform and Hjorth Parameters for feature extraction on the DREAMS dataset.
- Achieved high precision and recall (ViT: 0.9707, TCN: 0.9856) for classification.
- Integrated Explainable AI (SHAP) to enhance model interpretability for clinical use.

Suggestive Automated Mental Health Identification System: MINDSCAN **[Oct' 24 – Jan'25]**
Project: Self Project

- Developed an AI system to identify early signs of mental health disorders using real-time EEG and ECG signals.
- Achieved over 95% accuracy in detecting abnormal patterns.
- Improved early detection rates by 30% through actionable insights for users and healthcare providers.
- Planned future integration of PPG signals for an additional 15% accuracy increase.

Face Recognition Model **[Sept' 24 – Nov'24]**
Project: Self Project

- Achieved 96% recognition accuracy with a real-time face prediction model using Python, OpenCV.
- Optimized model to reduce lag by 66%, enhanced security by increasing recognition distance by 15%.
- Ensured well-organized code with comprehensive comments and documentation.
- Suitable for security systems, attendance tracking, and personalized user experiences.

Network Activity Anomaly Detection Model **[Jul' 24 – Aug'24]**
Project: Self Project

- Attained 92% detection rate for suspicious activities in network traffic, strengthening cybersecurity.
- Reduced false positives by 15% with advanced feature extraction and anomaly detection algorithms.
- Boosted detection accuracy by 89% for suspicious network activities, contributing to cybersecurity.
- Accelerated model efficiency by 20% using Python, Seaborn, and Scikit-Learn.

POSITION OF RESPONSIBILITY

Student Coordinator I Coding Club | IITRAM **[Oct'23-Present]**
Leading a team of 140 members working collaboratively on advanced coding projects and innovative solutions.

AI/ML Mentor I Unstop **[Jan'25-Present]**
Mentoring students in AI/ML concepts, guiding them through projects, competitions, and career opportunities.

Student Coordinator & DBMS Head I Alumni Affairs | IITRAM **[Jan'25-Present]**
Managing and optimizing the alumni database, ensuring accurate records and seamless data retrieval.

Campus Mantri | GeeksforGeeks **[Jan'25 – Present]**
Drove campus outreach and engagement to promote GeeksForGeeks as a competitive learning platform.

Student Executive I Unstop **[Oct'24-Present]**
Drove campus outreach and engagement to promote Unstop as a competitive learning platform.

Associate Member | Career Development Cell | IITRAM **[Jan'24-Jan'25]**
A team of 165 members dedicated to advancing career development through strategic initiatives and impactful projects.

AWARDS AND ACHIEVEMENTS

- Winner of 36-Hour Non-Stop Hackathon at FLUX '25 organised by IITRAM.
- First Runner-up in AI Quest Hackathon at Techfest '24 organised by IIT Bombay.
- Secured overall percentile of 95.27 in Joint Entrance Examination Mains 2023, out of 1.2 million appeared.
- Secured First Position and received Gold Medal in International Maths Olympiad in 2020.

RELEVANT COURSES

Data Science and Analytics Professional Certificate-Summer Analytics 2024 | IIT Guwahati **[Jul'24]**

IBM Data Science Professional Certificate | IBM **[Jun'24]**

Machine Learning Specialization Certificate | DeepLearning.AI **[May'24]**

Google IT Automation with Python Professional Certificate | Google **[Feb'24]**

The Joy of Computing using Python | NPTEL | IIT Ropar **[Dec'23]**

SKILLS AND EXPERTISE

Programming Languages: C++, Python, HTML, SQL, MATLAB, Machine Learning, Deep Learning, LLMs.

Libraries and Frameworks: Pytorch, GITHUB, Matlab, Pandas, Matplotlib, Plotly, Seaborn, Scikit-Learn, Tensorflow, NLTK, Arduino.