Prabhat Verma

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Profile Summary

Results-driven Computer Science student (3rd Year) with a strong foundation in software development, problem-solving, and data analytics. Proficient in Python, C++, MySQL, and full-stack development with experience in AI/ML and data-driven applications. Passionate about developing scalable solutions, collaborating on projects, and learning new technologies. Seeking opportunities in software development, AI/ML, or data analytics to apply academic knowledge in real-world scenarios.

Education

UPES Dehradun, India, B.Tech in CSE – Artificial Intelligence and Machine Learning   August 2022 – May 2026
- CGPA: 7.84

The Millenium School, Panipat, India, CBSE Higher Secondary Certificate   March 2021 – June 2022
- Percentage: 71.8

The Millenium School, Panipat, India, CBSE Secondary School Certificate   March 2019 – March 2020
- Percentage: 83.67

Project Work

Mental Health Analysis, Implemented using DistilBERT in Python   January 2025 – April 2025
- Developed a mental health text classification model using DistilBERT to analyze and categorize statements.
- Preprocessed and tokenized text data using Hugging Face's Transformers library for efficient training.
- Fine-tuned a custom DistilBERT-based classifier with additional dense layers, LayerNorm, and dropout for enhanced performance.
- Trained the model using Hugging Face's Trainer API with AdamW optimization, ReduceLROnPlateau scheduler, and mixed precision training.
- Evaluated the model using accuracy metrics and saved the best-performing version for future inference.
- Repository: Mental-Health-Analysis

Gesture Recognition for Wearable Sensor Data, Kaggle Competition by Child Mind Institute   May 2025 – August 2025
- Participated in a 3-month Kaggle competition hosted by the Child Mind Institute, focusing on gesture recognition using wearable sensor data to detect repetitive behaviors.
- Developed a two-branch deep learning model combining CNN and BiGRU architectures with attention mechanisms, achieving robust classification of 18 gesture types (e.g., hair pulling, scratching, writing).
- Engineered 20+ IMU-derived features (e.g., linear acceleration, angular velocity) and implemented data augmentation techniques to enhance model generalization.
- Achieved a competition score of 0.76 (F1-weighted) with the following detailed metrics:
  - Test Score: 74.01% (±1.53%)
  - Test Accuracy: 59.72% (±1.97%)
  - Validation Score: 73.45% (±1.45%)
  - Validation Accuracy: 58.95% (±2.11%)
- Evaluated model robustness under partial sensor availability, confirming the critical role of IMU data over auxiliary sensors (thermopile, proximity) for real-world deployment.
- Leveraged PyTorch for model training and deployed scalable pipelines for time-series data preprocessing, including gravity removal and dynamic feature extraction.

- Repository: Gesture-Recognition-Wearable-Data

Cashflow Minimizer, Implemented using Splitwise Algorithm in C++   August 2024 – December 2024
- Designed and implemented a cash flow minimization algorithm to efficiently settle debts among a group of friends based on the Splitwise approach.
- Reduced the total number of financial transactions by computing minimal settlements among participants.
- Leveraged C++ STL containers such as `multiset` and `unordered_map` for optimal time complexity in debt tracking and transaction resolution.
- Repository: Cashflow-Minimizer

Cassava Leaf Disease Classifier, Image Classification using Vision Transformer (ViT) in Python   Oct 2023 – Dec 2023
- Developed a Vision Transformer (ViT) model to classify cassava leaf diseases, addressing food security challenges for smallholder farmers in Sub-Saharan Africa.
- Engineered a robust data pipeline with Albumentations for image preprocessing and augmentation, including random resizing, flipping, and color adjustments.
- Implemented cross-validation and mixed-precision training, achieving 87.5% validation accuracy and optimizing performance on GPU-constrained environments.
- Deployed stratified K-fold validation and model checkpointing to ensure reproducibility and reliability in real-world agricultural diagnostics.
- Repository: Cassava Leaf Disease Classification

Key Skills

- Proficient in Python, C++, and C
- Experience with AI/ML frameworks like TensorFlow and Keras
- Strong grasp of Data Structures and Algorithms
- Proficient in data visualization with Power BI and Tableau
- SQL database management and query optimization in MySQL
- Software development practices: OOP, Git/GitHub, Agile Methodology
- Strong leadership, communication, and event management skills

Leadership Experience

Volunteer Intern, Shree Radha Madhav Kalyaan Samiti   June 2023 – July 2023
- Successfully completed a 45-day internship, gaining experience in event coordination and management.
- Assisted in organizing community development programs and ensured smooth execution of various activities.
- Worked closely with the team to enhance operational efficiency and stakeholder engagement.

Managing Team Member, All India Karate Championship 2024, Tau Devi Lal Park,   August 16 – August 18, 2024
Panchkula, Haryana
- Managed the scheduling and execution of matches, ensuring smooth operations throughout the event.
- Coordinated with referees, participants, and event organizers to maintain a structured match flow.
- Assisted in handling logistics and resolving on-ground issues to ensure an efficient and fair tournament.

Technical Certifications

Introduction to Generative AI - Art of the Possible, Amazon Web Services (AWS)   June 2025
- Completed AWS's foundational course on generative AI, exploring its transformative potential across industries, including creative arts, healthcare, and automation.
- Learned key concepts: diffusion models, LLMs (Large Language Models), and ethical considerations in AI-generated content.
- Studied AWS's AI/ML stack (e.g., Amazon Bedrock, SageMaker) for deploying scalable generative AI solutions.

- Examined real-world use cases, such as personalized content generation, synthetic data creation, and AI-assisted design.

Introduction to Data Science, Cisco Networking Academy   May 2025
- Gained foundational knowledge in Data Science including Data Analysis and Data Analytics.
- Covered key topics such as data lifecycle, data wrangling, and basic statistical analysis.

5-Day Gen AI Intensive Course, Kaggle   April 2025
- Completed an intensive training program focused on Generative AI, Deep Learning, and AI fundamentals.
- Developed practical knowledge of LLMs and modern AI workflows.

Introduction to CyberSecurity, Cisco Networking Academy   April 2025
- Acquired knowledge of core cybersecurity concepts including digital protection and cyber defense strategies.
- Learned about threats, vulnerabilities, and protection mechanisms.

Space Science and Technology Awareness Training (START), ISRO – Indian   February 2025
Space Research Organization
- Successfully completed the Space Science and Technology Awareness Training (START) program by ISRO.
- Gained insights into space technology, satellite systems, and advancements in space exploration.
- Credential ID: `7c0bf29c7bf304034cdcc498ebc40e48`

Research Publications / Conferences

- **Prabhat Verma**, *"Forecasting Atmospheric CO_2 Levels Using LSTM Networks: A Deep Learning Approach to Climate Change Prediction and Mitigation"*, presented at the **4th International Conference on Innovations in Science & Technology for Viksit Bharat (ICISTVB-2025)**, Arya P.G. College, Panipat, Haryana, in association with Green Chemistry Network Centre and Royal Society of Chemistry, March 2025.

- Repository: github.com/PrabhatVerma007/CO2-Forcasting

Extracurricular Activities

Silver Medal - Kata Competition, All India Karate Championship 2024   August 2024
- Secured Silver Medal in the **Kata Competition** (Under-21 Category, Individual) at the **All India Karate Championship 2024**, held from **August 16–18** at **Tau Devi Lal Park, Panchkula, Haryana**.
- Competed against top martial artists from across the country, demonstrating technical precision, form, and discipline in traditional kata.
- Recognized for strong execution, focus, and mastery of movements in a highly competitive event.
- Certificate Link: View Certificate