Ishan Pardhi

B.Tech - Computer Science and Engineering
Vellore Institute of Technology Bhopal

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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
Bachelor of Technology	Vellore Institute of Technology Bhopal	9.03 (Current)	2023-Present
Senior Secondary	MP Board	78.6%	2022
Secondary	CBSE Board	94.6%	2020

Projects

- **Online Campus Security Management System**
  - Developed a web application using Node.js, Express.js, MongoDB for back-end and HTML, CSS for front-end.
  - Created various features like guards can apply for leave from the website and view their monthly salary, manager can approve/decline leave requests and the software automatically calculates and mails employees' monthly salary.
- **Brain Tumor Classification using ResNet-50**

  GitHub Link
  - Engineered a deep learning model with ResNet-50 architecture to classify brain tumors from MRI scans, achieving over 90% accuracy.
  - Implemented data preprocessing and augmentation on a Kaggle dataset using TensorFlow and Keras.
  - Trained the model for 50 epochs utilizing the Adam optimizer and categorical cross-entropy loss function.
  - Visualized model performance by plotting accuracy and loss graphs with Matplotlib.
- **Real-Time Heart Rate Detection from Webcam**

  GitHub Link
  - Developed a computer vision system in Python using OpenCV to detect heart rate in real-time from a user's facial video stream.
  - Applied digital signal processing techniques to extract photoplethysmographic (PPG) signals from pixel intensity fluctuations.
  - Achieved a high degree of accuracy, with a low error margin of ±5 BPM when validated against medical-grade devices.

Technical Skills

- **Programming languages**: C++, Python, HTML, CSS, JavaScript
- **Libraries and others**: React.js, Node.js, Express.js, , MongoDB, Git, Mongoose, GitHub, Docker
- **Machine Learning**: TensorFlow, Keras, OpenCV, ResNet-50

Key courses taken

- **Computer Science**: Computer Programming, Discrete Mathematical Structures, Data Base and Information Systems, Data Structures and Algorithms , Automata Theory and Logic, Logic Design, Software Engineering, Design and Analysis of Algorithms, Operating Systems, Computer Architecture, Optimization Algorithms and Techniques, Parallel Computing
- **Mathematics**: Calculus, Linear Algebra, Differential Equations, Complex Analysis, Numerical Methods

Certifications

•**MERN Full Stack**: Ethnus Certificate of completion
•**Introduction to Machine Learning**: NPTEL (Elite)
•**MATLAB Onramp**: MathWorks
•**Python Basics**: HackerRank
•**Linux Tutorial**: Great Learning Academy
•**Fundamentals of AI and ML**: Vityarthi
•**Python Essentials**: Vityarthi

Achievements

- **Problem Solving Abilities:** Demonstrated strong problem-solving abilities by consistently solving complex DSA challenges on competitive programming platforms.
- **Project Commendation:** Received commendation from academic supervisors for the technical depth and clear presentation of the Brain Tumor Classification project.

Competitive Programming

•: Solved 500+ algorithmic challenges on platforms like LeetCode, Codeforces, and GeeksforGeeks.
•: Proficient in advanced algorithms including Dynamic Programming, Graph Theory, and String Matching (KMP).
•: Actively compete in coding contests to sharpen problem-solving and code optimization techniques.