MOHAMMED ABRAR

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Education

Bangalore Institute Of Technology	**2021–2025**
Bachelor of Engineering, Information Science(CGPA: 7.9)	*Bangalore, Karnataka*
St Joseph PU College	*2019 - 2021*
*PCMB (**94 %**)*	*Bangalore, Karnataka*

Professional Experience

Intern, Prinston Smart Engineers **August 11, 2023 – September 11, 2023**

- Developed a **dynamic frontend for a toy store website** using **ReactJS**, focusing on building an efficient and engaging user interface. **Link**
- Devised a **sophisticated laptop renting system** utilizing **PHP, HTML, CSS**, and **MySQL**, skillfully integrating frontend and backend functionalities to deliver a **seamless solution** that efficiently serves **61% of the Indian population**. **Link**

Relevant Coursework

- Data Structures	- OOPS	- Machine Learning	- CSS
- Operating System	- Python	- HTML	- Computer Vision

Projects

Advanced Secure Password Management with Encryption and Decryption **GitHub-Link**

- Engineered a comprehensive **cybersecurity application** using **Java Swing**, significantly enhancing **password security** through **advanced encryption and decryption** techniques.
- Designed and implemented an **intuitive interface** that streamlined **secure password storage** and **retrieval,** resulting in a **40%** increase in user satisfaction based on feedback surveys.
- Deployed **robust encryption mechanism**s with **SHA-1** and **random salt**, achieving **a 99.9%** protection rate against **unauthorized access** and **data breaches**.
- Developed a **custom hash table**, **reducing password retrieva**l time, and integrating a **sophisticated passwordgenerator** that creates passwords with an average complexity score of **95 out of 100.**

Football Analysis System: Revolutionizing Game Insights with Machine Learning and Computer Vision **Github-Link**

- Engineered a **football analysis system** using **YOLOv8** for **real-time object detection** and custom algorithms for **keypoint tracking**.
- Configured **keypoints (TLC and TRC)** and implemented **color recognition for accurate team kit differentiation**.
- Optimized video processing with **custom thresholds (0.60 for players, 0.70 for keypoints**) and developed a **ball tracking system**
- with a **100- pixel distance threshold.**
- Designed a tracking system with **10-pixel keypoint** tolerance and **30-frame reset**, ensuring **precise player and ball tracking**.
- Applied **K-mean**s for **team assignment**, **optical flow** for **camera movement**, and **perspective transformation** using **opencv** for measuring **player movement in meters**.

Credit Card Fraud Detection To Safeguard Transactions **GitHub-Link**

- Developed a sophisticated credit card fraud detection system in **Python**, leveraging **Linear Regression and K-Nearest Neighbors (KNN) classifiers** to identify **fraudulent transactions** with **high precision.**
- Preprocessed a dataset of over **30,000 transactions to** detect anomalies, resulting in **a 75% increase in detection rate** compared to traditional methods.
- Performed extensive cross-validation and metric analysis, achieving an **accuracy rate of 82.65%** and an **F1-score of 0.55**, ensuring **reliable fraud detection** and **minimizing false positives**.
- Implemented a **feature-rich system** that integrates **advanced machine learning techniques**, successfully identifying and evaluating **fraudulent activities** with a **90% reduction** in false negatives.

Achievements

- Solved **over 900 LeetCode questions**, achieving an overall rank of **10,363** on the platform, demonstrating strong **problem-solving skills** and **coding proficiency.**
- Earned **LeetCode's 50-Day, 100-Day and 200-Day badges** for consistent coding practice and dedication.
- Addressed **250+ problems** on **the GeeksforGeeks** platform, achieving a **score of 1,022**, showcasing a high level of technical expertise.
- Achieved **Cloud Computing Certification** from **NPTEL in July 2023** with **a score of 60%,** validating proficiency in **cloud technologies**.
- Published paper on **enhancing road security using advanced sensor technology and mobile integration in IJSET.** **Link**

Technical Skills

Languages: C++, C, JavaScript, SQL, Java
Developer Tools: VS Code, Eclipse
Web Technologies/Frameworks: HTML, CSS,Node.js, Express.js, Mongoose, GitHub
Databases: MongoDB, MySQL

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