Arnav Ashok

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Education

Vellore Institute of Technology, Bhopal **CGPA: 8.39**
Bachelor of Science in Computer Science *2022 – 2026*

D.A.V Public School, Baraitu, Ranchi **88.8%**
Grade 12th *2021*

Surendranath Centenary School, Ranchi **96%**
Grade 10th *2019*

Relevant Coursework

- Data Structures
- Algorithms Analysis
- Software Engineering
- Database Management
- Machine Learning
- Operating System
- Computer Networks
- Computer Architecture

Projects

Garbage Redressal System | *React, ExpressJS, MongoDB, YOLOv8, FastAPI* **March, 2025**

- Developed a garbage redressal system that enables users to report garbage in their locality by uploading images.
- Implemented an ML model to analyze the uploaded images and verify the presence of garbage before forwarding the report to authorities.
- Designed a workflow where authorities review the complaint, assign cleaning staff, and update the system with cleaned images.
- Integrated an ML-based verification step to assess the cleanliness of the updated image against a predefined threshold before marking the complaint as resolved.
- Automated user notifications to inform them when their complaint is successfully addressed.

Drowsiness Detection System | *Python, Streamlit, DLib, NumPy, OpenCV, Tensorflow* **June 2024**

- Implemented a driver monitoring solution using **DLib's** facial landmark detection to track eye aspect ratio and detect drowsiness
- Utilized the **68-facial landmark** extractions to track eye movement patterns, achieving high accuracy in detecting blink rates and prolonged eye closure
- Enhanced the system to achieve up to **98.5% accuracy** in classifying eye states
- Deployed a user-friendly interface using **Streamlit** for real-time monitoring and visualization of drowsiness indicators.

License Plate Detection | *Python, Tensorflow, PyTesseract, NumPy, OpenCV* **Nov 2023**

- Implemented **YOLOv3** for real-time license plate detection with **98.5% accuracy**, further optimized using Darknet architecture.
- Trained the model on a custom dataset of **5000+ images**, tailored for license plate recognition.
- Integrated **Tesseract OCR** for accurate license plate character recognition.
- Achieved low training loss value **0.0425**, showcasing strong model performance.

Technical Skills

Languages: C++, Java, Python, SQL, JavaScript
Frameworks: React, Node.js, Express, Flask, Material-UI, FastAPI
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ
Libraries: Pandas, NumPy, Matplotlib

Extra-curriculars

Tech Team, Annual Sports Fest

- Served as the Technical Team Manager, overseeing all data management for various games.
- Managed scores, player records, and event data to ensure smooth operations.

OWASP Club Event

- Served as the Outreach Lead, organizing a CTF competition and a speaker session.
- Led outreach efforts, ensuring participation of 70 members in the event.

Custom Game Server for GTA 5

- Developed and managed a custom game server, handling player database and event coordination.
- Maintained an average of 150 active players with a total of 40,000 registered users.