Adit Dua

+1(437)663-7335 | aditdua01@gmail.com | linkedin.com/in/aditdua | github.com/AditDua| Personal Portfolio

Education

Wilfrid Laurier University — Waterloo, ON
Honours in BSc Computer Science — *Sep. 2023 – July 2027*

- -Received $1250 scholarship for maintaining the GPA over 10.50
- GPA: 10.80/12.00

Pathways School Gurgaon — Gurgaon, India
Math AA(HL), Physics(HL), Chemisrty(HL), Business(SL), English A(SL), Spanish B(SL) — *April 2013 – May 2023*

Experience

Research and Development Intern — May 2024 – August 2024
Logic Fruit Technologies — *Gurgaon, India*

- ADAS Development: Worked on ADAS programs like lane-keeping assistance and pedestrian alert to improve vehicle safety.
- Algorithm Development: Developed algorithms for object detection (e.g., pedestrian recognition), lane-keeping (e.g., detecting lane boundaries) using JSON points, collision avoidance and traffic signal detection (e.g., recognizing traffic lights).
- 2D/3D Face Recognition: Implemented 2D face recognition/detection and 3D face detection using TFLite & basic packages for user authentication.
- Sensor Integration: Integrated cameras and LiDAR for real-time data processing, supporting features like collision detection and adaptive lighting.

Intern — May 2022 – June 2022
StigaSoft — *Gurgaon, India*

- HTML & CSS Coding: Optimized HTML structures to improve user interface and experience.
- JavaScript Development: Enhanced platform interactivity and responsiveness with dynamic functionalities.
- Problem Solving: Resolved coding challenges, ensuring smooth project execution.
- Collaborative Teamwork: Worked with cross-functional teams to align design elements with project goals.

Projects

2D & 3D Face Recognition | *Python, PyQt5, TFLite, Mediapipe, OpenCV*, AI /ML Libraries — July 2024 – Present

- The application uses a webcam for real-time facial analysis, providing both 3D face detection (leveraging depth information) and 2D face recognition (based on image data)
- The system allows users to capture multiple images of their face from different angles during the recognition process. These images are saved for future face recognition tasks, enhancing the system's accuracy and adaptability.
- The intuitive GUI, built with PyQt5, enables users to switch between 3D detection and 2D recognition modes, and easily capture and save images for face recognition.

Lane Detection using JSON Points | *Python, JSON, OpenCV, AI /ML Libraries* — May 2018 – May 2020

- Developed a lane detection system using polynomial fitting and perspective transformation to identify road lanes in real time, providing visual overlays and warnings for lane deviation.
- Implemented algorithms to calculate road curvature and determine the vehicle's position relative to the lane center, enhancing lane-keeping assistance by alerting the driver of any off-center drift.
- Designed a system to overlay real-time information on the display, including curvature direction, lane status, and vehicle offset, utilizing JSON for data handling and OpenCV for visual feedback during driving.

Technical Skills

Languages: Python, JavaScript, HTML & CSS, Java
Developer Tools: Git, Google Collab, Google Cloud Platform, VS Code, PyCharm, Eclipse
Libraries: Matplotlib, Pyqt, Tensorflow, Pandas, Numpy, Mediapipe, PyTorch, OpenCV, SVM, Clustering, Regression, Classification, Scikit-learn, Seaborn, Pipenv, Keras, SciPy, Plotly, YOLO
Frameworks: React JS, Node JS, Flutter, Next JS, React, Flask, Django
Skills: Project Planning, Research Skills, Business Strategy, Teamwork, Time management, Self-management, Thinking, Communication, Problem-Solving.