# Adithya TG

adithyatg.github.io/Adithya-TG | (+91)7676731183 | adithyatg.work@gmail.com | Bangalore, India

## EDUCATION

**PES University**, Final Year, B.Tech. in Computer Science & Engineering | Bangalore, India          May 2025
**SGPA:** 10.00, **CGPA**: 8.61. **Coursework**: Data Structure & Algorithms, Machine Intelligence, Image processing & Computer Vision, Database Management, Application Development, Software Engineering, Operating Systems, Big Data and Cloud Computing

**Allen Career Institute**, 11th - 12th grade | Bangalore, India          June 2021
**CBSE Percentage**: 88%. **Coursework**: Sciences, Python and SQL

**Deccan International School**, 1st - 10th grade | Bangalore, India          May 2019
**ICSE Percentage**: 94.5%. **Coursework**: Sciences and Java

## WORK EXPERIENCE

**Teaching Assistant - PES University** | Bangalore, India          June 2024 - Present
- Collaborated on preparing assignments, slides and notes for first-year Master's in Technology course, "Deep Learning Theory and Practices.

**Student Intern - CDSAML** | Bangalore, India          December 2023 - July 2024
- Developed and executed deep learning projects at PES University's Center for Data Science and Applied Machine Learning which involved enhancing vision models for text heavy content understanding and interaction. Worked on evaluation of various LLMs leading to submission of publication - "Comparative Analysis of Large Language Models Fine-tuned on a single dataset".

**Volunteer - CSR club** | Bangalore, India          March 2023 - July 2024
- Planned and executed a charitable event at an orphanage, engaging 50+ students providing guidance.

**Software Engineer Intern - Maacsys** | Bangalore, India          May 2022 - July 2022
- Enhanced facial recognition for an automatic door unlocking system by 7%.
- Developed smart slate and text read-aloud app for ESP32 chip using C programming and Java in 2 projects.
- Implemented Agile methodologies in 2 software development projects, resulting in an increase in project completion ahead of schedule.

## PUBLICATIONS

[1] "**GEN AI-Driven Automation for Wrist X-ray Report Generation**", Machine Learning Journal, Springer, 2024*.

[2] "**Leveraging Virtual Reality and AI Tutoring for Language Learning: A Case Study of a Virtual Campus Environment with OpenAI GPT Integration with Unity 3D**", HCI International 2025*.

[3] "**Comparative Analysis of Large Language Models Fine-tuned on a Singular Dataset**", 2024 8th International Conference on Natural Language Processing and Information Retrieval (NLPIR 2024), Japan, December 2024.

[4] "**Enhancing the Human Disaster Rescuing Operations Through Automated Flying Drone Deployments for Efficient Search, Rescue, and Probing Missions in Crisis Scenarios During Calamities using Digital Image Processing Techniques**", IEEE 9th International Conference on Engineering, Technologies & Applied Sciences, ICETAS Bahrain, November, 2024.

[5] "**Enhancing Vision Models for Text-Heavy Content Understanding and Interaction**", arXiv CV, May 2024.

[6] "**Hardware Implementation to detect brain tumour using AI ML based Convolution Neural Networks CNN in the field of bio medical engineering**", Hinweis Second International Conference on Advanced Research in Engineering and Technology (ARET), December 2023.

[7] "**Short range motion detector droid**", Grenze International Journal of Engineering & Technology (GIJET), Vol 9, Issue 1, p450, June 2023.

[8] "**Human health monitoring system**", Grenze International Journal of Engineering & Technology (GIJET), Vol 9, Issue 1, p476, June 2023.

[9] "**3D Hand tracking in virtual environments**", Grenze International Journal of Engineering & Technology (GIJET), Vol 9, Issue 1, p431, June 2023.

[10] "**An Optimised Path-Planning Concept for a Micro-Mouse Robot for Autonomous Applications in Terrain Environments**", International Journal of Computer Applications (0975 – 8887) Volume 184– No.26, August 2022.

[11] "**Automatic Number Plate Recognition Idea Development using AI based ANNs**", Matjournals Vol. 8, No. 1, July 2022.

## PROJECTS

**Gen-AI driven Automated Radiology Report Generation** | YOLOv8, RAG
- Created a report generation system which uses image processing and NLP methods to generate radiology reports for wrist X-rays.

**Video Processing Using Image Processing Techniques** | Python
- Frames from a given video were extracted, and all corrupt frames were analyzed, detected, and corrected. Additionally, next-frame prediction was implemented for specific objects, such as tracking a moving ball.

**Library Management System** | Python, MySQL
- Developed a Python-based application for efficient library operations, including book management, borrower handling and transaction processing with MySQL for storing back-end data.

**Micro-services communication using RabbitMQ** | Docker, RabbitMQ
- The inventory management system efficiently manages inventory items, track stock levels and handle orders through a micro-services architecture. The project utilises RabbitMQ for inter service communication and Docker for containerisation, ensuring scalability, modularity and ease of deployment.

**Smart door lock** | ESP32 cam
- Played a role in crafting the software component for the automated door lock prototype, employing facial recognition technology.

**News App** | Flutter, Firebase
- Built a cross-platform mobile news application using Flutter and Dart, connected to a Firebase database and integrated with BBC API for real-time news updates.

**Student Virtual Advisor** | HTML, CSS, JavaScript
- Created a mentoring platform for high school students to receive career guidance from mentors, utilizing HTML, CSS and JavaScript for a responsive and interactive user experience.

**Scanned Text Reader App** | Java, Android Studio
- Created a read aloud application empowering the visually impaired to access scanned text 1 by 1 on their mobile devices.

**College 11th floor Architecture development with Interactive AI chatbot** | Unity 3D, Blender, C#
- Spearheaded the creation of the 11th floor of PES college building, housing an AI tutor to processing speech, translating queries, and delivering verbal responses on a variety of topics.

**Yet Another Distributed File System** | Operating Systems, Python
- Orchestrated the implementation of a distributed file system, facilitating seamless 7 directory and file operations via a Python client interface, operational within Linux Ubuntu environments.

**Flight Booking System** | Java, Spring Boot, MySQL
- Created a flight booking application featuring a user-friendly interface for browsing flights, making reservations, and viewing booking history, using Java Spring Boot, MVC architecture, and MySQL database.

**Auto Replay & CAN Frame Identification** | Bash shell scripting
- This project identified the CAN frame packet ID for a particular action using Replay Attack from log file data.

**Complex Snake Game** | Python
- Developed an advanced snake game with multiple difficulty levels and features like obstacles and power-ups using Python's Tkinter GUI library, enhancing gameplay and user engagement.

## ACHIEVEMENTS

- Recipient of **CNR** award and scholarship given for excellent academic performance at PES University
- Recipient of **Distinction Award Certificate** and scholarship 5 times at PES University
- Participated in **Hashcode 12.0** hackathon
- Won 1 neckband prize and participated in **Embrione 2.0** hackathon
- Participated in Nexgen hackathon.
- School House **Captain** winner 2019

## SKILLS

- **Programming Languages:** Python, C, C++, Java, R, Dart, JavaScript, Swift
- **Web Development:** HTML, CSS3, Angular, React, Node.js
- **Database Technologies:** SQL, MongoDB, Firebase
- **Data Processing and Big Data:** Hadoop, Kafka, RabbitMQ, Map-reduce, HIVE, Spark
- **Cloud Computing:** AWS
- **Game Development and Graphics:** Unity3D, Unreal Engine, OpenGL, Blender
- **Mobile Development:** Flutter

## EXTRACURRICULAR ACTIVITIES

- Volunteered to organize a blood donation camp at PES University.
- Visited orphanage to spend time and educate students present there.
- Participated in painting walls of government schools adopted by PES University.
- Helped organise a Blood donation camp at Apollo Cradle and Children's Hospital with the help of Sagar Blood Bank, Sagar Hospitals.

## LINKS

- LinkedIn - https://www.linkedin.com/in/adithya-tg/
- Personal Website - https://adithyatg.github.io/Adithya-TG
- Email - adithyatg.work@gmail.com