

Ajjay Adhithya V

22BCE1250

Bachelor of Technology

in Computer Science Engineering

Vellore Institute of Technology, Chennai

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[Personal Website](#)

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[Github](#)

EDUCATION

Degree	Institute	Board / University	CGPA/Percentage	Year
B.Tech CSE	Vellore Institute of Technology, Chennai	VIT Chennai	8.98 (Till 6 th Sem)	2022–2026
Class 12	Velammal Vidyalaya, Mel Ayanambakkam	CBSE	95.2%	2022
Class 10	Velammal Vidyalaya, Mel Ayanambakkam	CBSE	91.6%	2020

TECHNICAL SKILLS

- **Languages / Technologies** : Python, C/C++, Java, R Studio, Matlab, LT Spice, SQL, Oracle SQL, MERN Stack (MongoDB, Express, React, Node.js), Arduino Programming, AWS Services, Reinforcement Learning Frameworks
- **Frontend Web Development** : HTML, CSS, Bootstrap, Tailwind, JavaScript, React Library
- **Backend Web Development** : NodeJS, ExpressJS, MongoDB Atlas, Oracle SQL, REST APIs
- **Tools**: Visual Studio Code, Jupyter Notebook, Git / GitHub, Arduino IDE
- **Operating Systems**: Windows, Linux, MacOS & Android

PROJECTS

- **Adaptive Traffic Signal Optimization Using Reinforcement Learning** Sep 2024 - Nov 2024
Artificial Intelligence (AI) and Reinforcement Learning [Report Link](#)
 - This project optimizes urban traffic signals using Reinforcement Learning (RL) to adapt to dynamic traffic flow. It combines a Random Forest Classifier for initial predictions with Q-learning for real-time signal adjustments. Simulated in Pygame, the system leverages real-time and historical data to minimize delays and improve traffic efficiency, demonstrating RL's potential for modern traffic management.
- **Campus Recruitment Management System Using Oracle SQL** Sep 2024 - Nov 2024
SQL, ORACLE Database and ORACLE SQL [Report Link](#)
 - A streamlined campus recruitment platform with dashboards for students and recruiters, job postings, applications, and interview scheduling. Developed through entity identification, ER modeling, schema normalization (1NF-3NF), and system implementation for an efficient user experience.
- **DevLab : Innovative Code Evaluation and Learning Experience** Aug 2024 - Nov 2024
Amazon Web Services (AWS) and Full-Stack Development [Report Link](#)
 - I co-developed DevLab, an Ed-Tech platform for interactive web development learning. I set up DynamoDB for scalable storage and used AWS Amplify for seamless hosting. The system features real-time coding challenges, personalized recommendations, and advanced analytics for an optimized learning experience.
- **Flappy Bird Game - Leaderboard Component Development** Jun 2024 - Jul 2024
Front-End Development, React.js and Tailwind CSS [Game Link](#)
 - Co-developed Flappy Bird, focusing on the leaderboard's front-end. Designed a dynamic scrolling scoreboard and a chart for top players, ensuring a responsive and engaging user experience.
- **News Aggregator Website with Dynamic Personalized Feeds Built Using MERN Stack** Jun 2024 - Jul 2024
MERN Stack Development [Webpage Link](#)
 - Developed a MERN-based News Aggregator with user authentication, personalized feeds, and real-time updates. Features include a responsive dashboard, dark mode, translation, and secure authentication for a seamless user experience.
- **Heart Rate Monitoring With Built-In GPS Module** Feb 2024 - Mar 2024
Wearable Computing and Internet of Things (IoT) [Poster Link](#)
 - Developed a smartwatch for continuous heart rate monitoring and emergency alerts via GSM. It detects abnormal fluctuations and sends real-time SMS notifications. The OLED screen displays pulse rate and XYZ coordinates, making it a compact and effective solution for health tracking and emergency response.
- **IoT-Driven Smart Irrigation with Moisture-Dependent Pump Control for Sustainable Agriculture** Aug 2023 - Nov 2023
Raspberry Pi, ESP32 Microcontrollers and Circuit Design [Report Link](#)
 - Developed an IoT-based smart irrigation system to combat water scarcity and unpredictable weather. It integrates soil moisture sensors, real-time rainfall forecasts, and threshold-based automation, with cloud-enabled manual and automated pump control for efficient water management.


EXPERIENCE

- **Vellore Institute of Technology, Chennai**

Summer Research Internship Program

– Working under the guidance of Dr. Sahaya Beni Prathiba B on advanced research in Autonomous Systems and 6G networks.

May 2025 - Present

Hybrid
- **India Space Lab (ISL)** 

Winter Internship Trainee

– Intern at India Space Lab, gaining hands-on experience in Advanced Drone Technology, CanSat and CubeSat satellite systems, Exoplanet Astronomy, and Space Entrepreneurship, building a strong foundation in innovative space technologies and business strategies.


Dec 2024 - Jan 2025

Remote
- **Rotaract Club of VIT (Chennai Campus)**

Green Rotaractor

– As a Green Rotaractor, I will contribute to community service projects, focusing on sustainability and social impact. I'll work with the team to organize initiatives that promote positive change while developing leadership and teamwork skills.

Sep 2024 - Present

On-site
- **InstiBuzz - All-in-one campus brand of IIT Madras** 

Technical Team Member (Full-Stack) - Internship

– As a Technical Team intern at Instibuzz, the all-in-one campus brand of IIT Madras, we focus on maintaining and optimizing the website to ensure smooth functionality, an engaging user experience, and a strong digital presence for the brand.

Aug 2024 - Oct 2024

Hybrid
- **CodeChef VIT-Chennai Chapter**

Full Stack Web Developer

– As Web Developers for CodeChef VIT-Chennai Chapter, we develop and maintain the club's website, ensuring a user-friendly experience. We create event-specific pages, support technical aspects of coding competitions and workshops, and collaborate on projects to enhance our online presence and community engagement.

June 2024 - Present

VIT-Chennai
- **IEEE Computer Society VIT-Chennai**


Management Team Member

– As a Management Team Member of the IEEE Computer Society Club at VIT Chennai, I organize and manage events, workshops, and seminars to enhance technical skills. I facilitate communication and operations to ensure successful event execution and develop strategic plans to promote club activities and increase member engagement.

Oct 2023 - Jun 2024


VIT-Chennai

PUBLICATIONS

- **Transforming Road Infrastructure Management: A Multimodal Road Quality Rating System** 

Internet of Things & Embedded Systems

– The paper has been accepted and presented in 8th International Conference on Computing Methodologies and Communication (ICCMC-2025) and yet to be published in IEEE Xplore.

Jan 2025 – April 2025
- **LoRaWAN-based Glucose Level Monitoring for Enhancing Diabetes Management** 

Internet of Things, Data Processing & Cloud Computing

– Research Paper submitted to the 3rd International Conference on Intelligent Computing Systems and Applications (ICICSA-2025) and currently under review.

Feb 2025 – May 2025

KEY COURSES TAKEN

- **Computer Science :**

(a) **Programming Languages & Paradigms :** Python, Java, C/C++, Structured and Object-Oriented Programming

(b) **Software Engineering :** Web Programming, Compiler Design, Operating Systems, Embedded Systems, Software Engineering

(c) **Algorithms & Theoretical Foundations :** Data Structures and Algorithms, Design and Analysis of Algorithms, Theory of Computation, Cryptography and Network Security, Digital Image Processing

(d) **Computer Systems & Networks :** Computer Architecture and Organization, Computer Networks

(e) **AI & Data Science :** Artificial Intelligence, Natural Language Processing, Foundations of Data Science

(f) **Databases :** Database Systems

(g) **Cloud Computing :** AWS Solutions Architect, Wearable Computing, Design of Smart Cities
- **Mathematics :** Calculus, Differential Equations and Transforms, Complex Variables and Linear Algebra, Probability and Statistics, Discrete Mathematics and Graph Theory
- **Electronics and Communication :** Basic Electrical and Electronics Engineering, Digital Systems Design, Microprocessors and Microcontrollers

CERTIFICATIONS

- **Advanced Drone Technology (Air Taxi) Workshop** [!\[\]\(8be7dbed0cdcd9134bb63b78488f98f4_img.jpg\)](#)

Completed the Advanced Drone Technology (Air Taxi) Workshop by India Space Lab, gaining insights into UAV design, programming, regulations, and the future of drones in AI.

- **AI Demystified: Machine Learning Essentials with Azure ML** [!\[\]\(deab1c35b8bdbc17e1165ce3b654c399_img.jpg\)](#)

Completed a hands-on workshop focused on foundational machine learning concepts using Microsoft Azure Machine Learning. Gained practical exposure to building, training, and deploying ML models on Azure.

- **Ethnus MERN Full-Stack Development Certification** [!\[\]\(79169962419aac0df51c574c37c48bd2_img.jpg\)](#)

Completed a Certification Program in MERN Full-Stack Development, culminating in a MERN-based News Aggregator app featuring real-time updates, user authentication, and personalized feeds. Strengthened full-stack skills and Agile teamwork.

- **Rev Up Arduino – Level 1** [!\[\]\(8477bf165661a8d59b497faa5f014d14_img.jpg\)](#)

Completed Level 1 of the 'Rev Up Arduino' program by the Robotics Club, VIT Chennai, gaining foundational knowledge in Arduino programming, circuit design, and hardware interfacing through hands-on projects.

- **C Programming Certification** [!\[\]\(b8c84d8cd186f2eea60c9bfa9a6d84c9_img.jpg\)](#)

Completed the C Programming Certification at VIT Chennai with course content from the Spoken Tutorial Project, IIT Bombay. Secured 80% in the online assessment.

- **C++ Programming Certification** [!\[\]\(a2500e74cee5eee3c4a6336cbf9f9ec7_img.jpg\)](#)

Completed the C++ Programming Certification at VIT Chennai via the Spoken Tutorial Project, IIT Bombay. Scored 80% in the online exam.

- **Python Programming Certification** [!\[\]\(6bfe2c029571271d9a78bca1c2fc9984_img.jpg\)](#)

Completed the Python Programming Certification at VIT Chennai under the Spoken Tutorial Project, IIT Bombay. Achieved 85% in the final evaluation.

ACHIEVEMENTS

- Cleared the **INTER-SCHOOL LEVEL OF SPELL BEE INTERNATIONAL COMPETITION** and qualified for Regional/State level Competition for the academic year 2017-18.

[CERTIFICATE LINK](#)

- Secured a **Certificate of Perfect Score** for securing a centum in **Physics** during the final examination in Class 9.

[CERTIFICATE LINK](#)

- Participated as a Scout in the **Forest Trek and Mass Cleaning Campaign** held at **Raj Bhavan, Chennai** in **October 2018**, on the occasion of the **150th birth anniversary of Mahatma Gandhi**. Received a certificate of appreciation from the **Hon'ble Ex-Governor of Tamil Nadu, Shri Banwarilal Purohit**.

[CERTIFICATE LINK](#)

- **RAJYA PURASKAR** Awardee as a scout in the Bharat Scouts and Guides for the year 2019.

[CERTIFICATE LINK](#)

- Secured **Certificate of Merit** for **Outstanding Academic Performance** and for being among the **Top 0.1 percent** of successful candidates in **Mathematics** in Class 10.

- Secured **Centum in Computer Science (Python)** subject in Class 12 **CBSE Board Examination, 2022**

- Successfully completed the **NPTEL** Online Certification course on **Wildlife Ecology** with an Elite **Top 1 percent distinction**. Achieved a perfect score of **100 percent**, excelling in both online assignments (25/25) and the proctored exam (75/75).

COMMUNITY SERVICES

- Volunteered in The **Planet's Largest Coastal Cleanup at Marina Beach, Chennai** on September 21, 2024, collecting waste to protect marine life and promote sustainability with Rotaract Club of VIT, CommuniTree, and Rotaract District 3234.

- Participated in the **"One Walk, One Hope" breast cancer awareness walkathon** on October 27, 2024, at Island Ground, Chennai, organized by the District Rotaract Council to promote early detection, education, and community support.

- Participated in the **"Run for Quality" 5K run** organized by the **Bureau of Indian Standards (BIS), Chennai**, on November 10, 2024, to promote awareness of standards, consumer safety, and quality in daily life.

- Participated in **"Kadal Karai - Season 2, Episode 1" beach cleanup drive** at **Elliot's Beach** on January 12, 2025, organized by the Rotaract Club of VIT Chennai and supported by the Rotary Club of Chennai, contributing to environmental sustainability by removing litter and promoting community awareness.

- Participated in the 3rd Edition of the **K10K Cancer Awareness Run** on February 2, 2025, at Olcott Memorial School, Besant Nagar, Chennai, to promote **Cancer Awareness and support fundraising** for underprivileged patients, organized by Kauvery Cancer Institute and Kauvery Hospital.