A v i n a s h   K u m a r   V

Third Year Undergraduate
Mechanical Engineering
Vellore Institute of Technology , Chennai

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EDUCATIONAL QUALIFICATIONS

Vellore Institute of Technology (VIT),Chennai   Tamil Nadu, India
Bachelor of Mechanical Engineering , CGPA: 8.8(Fourth Semester)
Aristo Public School,Cuddalore   *August 2023 - July 2027*
Higher Secondary Education, Percentage:88   Tamil Nadu, India

                                                                                                                                                             July 2023

SKILLS

- **Programming Languages:** Python, Java
- **Frameworks & Tools:** React ,Node ,Express ,HTML ,CSS ,JavaScript ,Git,Bootstrap , Flask
- **SQL & Databases :** SQL Plus, SQLite, SQLAlchemy, PostgreSQL ,MongoDB
- **Machine Learning:** NumPy, Pandas, Matplotlib, Tensorflow*
- **IOT:** Mosquito MQTT, Node Red, AWS IOT core*, Dynamo DB*   **Basic Level*
- **CRM:** Salesforce

WORK EXPERIENCE

Summer Intern at Heubach Colorant India Limited
- Optimized slurry filtration process by analyzing the performance of a 52-plate filter press handling acidic slurry (pH 1–2), leading to actionable recommendations to reduce water consumption by up to 92% per batch.
- Developed and proposed water-saving strategies including counter-current washing, acid filtrate reuse, and AI-based control logic, enhancing process sustainability and efficiency.
- Collaborated with plant engineers and conducted real-time data collection and cost-benefit analysis to support practical implementation of eco-friendly filtration solutions.

Python Developer Intern (Remote) at Next24Tech Technology
- Developed and showcased API integration skills by building RESTful APIs to enable seamless data exchange between front-end and back-end systems.
- Created intuitive GUI applications using Python frameworks, enhancing user interaction and experience.
- Collaborated remotely with the team to troubleshoot issues and improve application performance.

Fullstack Web Development Intern (Remote) at Unified Mentor Private Limited
- Developed two full-fledged web applications using HTML, CSS, JavaScript, React, and Express.
- First project: EV Charging Station website enabling users to locate and book charging stations.
- Second project: Student-Teacher Appointment Booking website facilitating appointment management and scheduling.

Front-End Development Intern (Remote) – AICTE SkillsBuild Program powered by IBM
- Learned and applied front-end development technologies such as HTML, CSS, JavaScript, and React through structured training modules.
- Designed and developed a professional digital portfolio project to showcase skills, projects, and accomplishments.

PROJECTS

Assured Contract Farming System/Website

VITSIH Hackathon 2024, HTML, CSS, JavaScript, Flask, PostgreSQL, Bootstrap   *VIT Chennai, India*
- Engineered digital marketplace with real-time bidding, increasing farmers' income by 30%.   *October 2024*
- Implemented price negotiation and escrow payments, reducing financial risk by 40% along with digital contracts.
- Enhanced operational efficiency by 25% through automated alerts and seamless transactions.

AI-Powered Machine Failure Prediction & Auto-Correction System

Capstone Project 2025, Python, Scikit-learn, TensorFlow, Flask, SQL,

- Developed an AI-driven fault prediction model with 91% accuracy using real-time sensor data, reducing unexpected machine failures by over 60%.
- Integrated automated correction protocols via embedded microcontrollers, enabling real-time anomaly   *VIT Chennai, India* response and system self-healing.   *March 2025*
- Deployed a Flask-based dashboard for monitoring and alerting, improving maintenance efficiency and reducing downtime by 40%.

UnMute: Stealth Weather & SOS Progressive Web App

HackHub 2025, HTML, CSS, JavaScript, Flask, Service Workers, PWA, AI, Geolocation API

- Engineered a stealth Progressive Web App (PWA) that mimics a weather forecast site while enabling silent SOS alerts through hidden gestures, voice commands, and keyboard patterns.
- Integrated geolocation tracking and AI-powered emergency message generation to alert authorities   *VIT Chennai, India* and emergency contacts without revealing the user's intent.   *March 2025*
- Ensured offline functionality using service workers and manifest integration, enabling uninterrupted access and alerts even without internet connectivity.

ACHIEVEMENTS

- **Top 120** out of 540 teams at VITSIH Hackathon 2024 with the Assured Contract Farming System.

COURSES AND CERTIFICATIONS

- 100 Days Of Code: The Complete **Python** Pro Bootcamp from **Udemy**   *January,2025*
- **Deloitte** Technology Job Simulation Program on Forage **Microsoft** Azure AI   *June, 2025*
- **Electronic Arts**-Software Engineering Job Simulation on Forage   *June, 2025*
- **AI for Beginners** from HP Life   *June, 2025*

POSITIONS OF RESPONSIBILITY

- **Team Lead:** at Summer Internship and VITSIH Hackathon 2024