# Avinash Kumar V

Third Year Undergraduate
Mechanical Engineering
Vellore Institute of Technology , Chennai

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## EDUCATIONAL QUALIFICATIONS

**Vellore Institute of Technology (VIT),Chennai**
Bachelor of Mechanical Engineering , CGPA: 8.8(Fourth Semester)
**Aristo Public School,Cuddalore**
Higher Secondary Education, Percentage:88

*Tamil Nadu, India*

*August 2023 - July 2027*

*Tamil Nadu, India*

*July 2023*

## SKILLS

- **Programming Languages:** Python, Java,
- **Frameworks & Tools:** React*, HTML, CSS, JavaScript, Git, Bootstrap, Flask
- **SQL & Databases :** SQL Plus, SQLite, SQLAlchemy, PostgreSQL ,MongoDB*
- **Machine Learning:** NumPy, pandas, Matplotlib, Tensorflow*

*\*Basic Level*

## WORK EXPERIENCE

**Summer Intern Inplant Trainee**
- 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.

## PROJECTS

**Assured Contract Farming System/Website**

*VIT Chennai, India*
*October 2024*

*VITSIH Hackathon 2024, HTML, CSS, JavaScript, Flask, PostgreSQL, Bootstrap*

- Engineered digital marketplace with real-time bidding, increasing farmers' income by 30%.
- 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 response and system self-healing.
- Deployed a Flask-based dashboard for monitoring and alerting, improving maintenance efficiency and reducing downtime by 40%.

*VIT Chennai, India*
*March 2025*

**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 and emergency contacts without revealing the user's intent.
- Ensured offline functionality using service workers and manifest integration, enabling uninterrupted access and alerts even without internet connectivity.

*VIT Chennai, India*
*March 2025*

## 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**
- **Deloitte** Technology Job Simulation Program on Forage **Microsoft** Azure AI
- **Electronic Arts**-Software Engineering Job Simulation on Forage
- **AI for Beginners** from HP Life

*January,2025*
*June, 2025*
*June, 2025*
*June, 2025*

## POSITIONS OF RESPONSIBILITY

- **Team Lead:** at Summer Internship and VITSIH Hackathon 2024
- **School Pupil Leader:** Oversaw a student body of 600, managing events and community building.