

# Varshitha Thilak Kumar

**Aspiring AI  
Engineer**

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## Varshitha Thilak Kumar

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## Skills

- Computational Thinking & Problem Solving
- C and C++ Programming
- Java (Basics)
- MATLAB(Basics)
- Data Structures & Algorithms (DSA)
- Python Programming
- Web Development

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## Projects

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### 1. Canteen Management System (C Language)

- Developed a C-based application for canteen inventory and order management.
- Strengthened C programming skills.
- Faced challenges in implementing inventory management.

### 2. Text to Morse Code Converter (Java)

- Designed a Java-based text-to-Morse code converter.
- Encountered challenges in configuring sliders for volume and speed adjustments.

### 3. Automatic-Forklift-Prototype using Pygame and Raspberry Pi 4B

- Developed a smart forklift prototype using Raspberry Pi for real-time control and sensor data processing.
- Simulated operational dynamics using Pygame and OpenGL to visualize mechanical stress and enhance predictive maintenance.

### 4. DDoS detection in SDN using ML

- Developed a DDoS detection and mitigation system in SDN using Mininet, integrating ML models (Random Forest, SVM) with a Ryu controller for real-time traffic classification.
- Implemented automated blocking and rerouting strategies to enhance network resilience against evolving threats.

### 5. Eater Ease Online Restaurant - Responsive Web Page(UI)

- Built a fully responsive online restaurant website.
- Initially struggled with JavaScript but gained proficiency.

### 6. Time-Frequency Analysis on PQD using Advanced Signal Processing Techniques (MATLAB)

- Applied advanced signal processing techniques for power quality disturbance analysis.
- Faced difficulty in understanding the mathematical formulas for signal

processing methods.

### 7. Statistical Analysis Project (Mathematics)

- Explored Graphical Lasso and ADMM (Alternating Direction Method of Multipliers) for statistical data analysis.
- Faced challenges in applying ADMM but later focused on alternative computational methods. Conducted mathematical derivations and graphical representations for statistical models.

### 8. Phishing Website Detection (Machine Learning)

- Developed a phishing website detection system using machine learning models.
- Analyzed a dataset containing legitimate and phishing websites.
- Improved feature extraction techniques to enhance classification accuracy.

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## Education

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### Maharishi Vidya Mandir / 10th Graduation

June 2020 - March 2021, Chennai

Passed out with 93.6%

### Velammal Vidyalaya / 12th Graduation

June 2021 - March 2023, Chennai

Passed out with 87.2%

### Amrita Vishwa Vidyapeetham / B-Tech CSE-AI

August 2023 - July 2027, Coimbatore

Currently pursuing 3rd Year

CGPA: 8.47 SGPA:8.97

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## Awards

- Presented Paper at IEEE Conference (ETIS, Trivandrum - 2024)

Topic: Time-Frequency Analysis on PQD using Advanced Signal Processing Techniques (MATLAB)

Published on IEEE Xplore-<https://ieeexplore.ieee.org/document/10961578>

- Certified in C and C++ (FIIT)
- Finalist in GenAI Hackathon (Value Health Org) - 2024

Developed GenJournals, an AI-powered journaling application.

- Course at Plasmid Edutech for 2 months (Aug - Oct 2024).

Gained hands-on experience in Artificial Intelligence & Machine Learning.