

PAWAN MUGALIHALLI

kumarpawan36345@gmail.com | (+91) 9182117316

[GitHub](#) [LinkedIn](#) [LeetCode](#) [CodeChef](#)

Education

Bachelor of Technology in Computer Science Engineering

Indian Institute of Information Technology, Kottayam.

(Graduation: 2026)

CGPA:8.95

(as of Nov 2022 – Nov 2024)

Higher Secondary Education (State Board)

Tirumala Engineering College, Vizag.

Percentage: **96.2%** (2021)

Projects

Transformer Network Implementation | Python, Pytorch.

[\(GitHub Link\)](#)

- Implemented a Transformer architecture from scratch using PyTorch
- Designed and implemented a Transformer model inspired by the "**Attention Is All You Need**" paper, incorporating core components such as multi-head self-attention, positional encoding, encoder-decoder layers, and efficient masking mechanisms.
- The architecture consists of a **6-layer encoder-decoder structure**, **8 attention heads**, and an **embedding size of 512**.
- Applied advanced techniques such as residual connections, layer normalization, and dropout for stable training and improved performance.
- Demonstrated model performance by processing tokenized source and target sequences, showing accurate shape output for sequence-to-sequence tasks.

Plant Disease Prediction | Python, TensorFlow, Keras, ResNet-18, Data Augmentation.

[\(GitHub Link\)](#)

- Developed a deep learning model for plant disease classification using a labeled dataset of tomato crop leaf images.
- Robust performance metrics (**precision: 99.04%**, **recall: 98.9%**, **F1-score: 98.92%**).
- Utilized ResNet-18 as the backbone model for feature extraction, leveraging its pre-trained weights and fine-tuning the layers for optimal performance on the plant disease dataset.
- Applied advanced data augmentation techniques (rotation, flipping, zooming) to improve model generalization and mitigate overfitting.

College Clubs Management System | Python, Django, SQLite, Bootstrap, JavaScript, jQuery

[\(View Here\)](#)[\(GitHub Link\)](#)

- Developed a full-stack web application for managing **4 clubs** and over **12+ sub-clubs**.
- User authentication** and **authorization** system for different user roles (admin, club members).
- Communication features, including announcements, messaging, and discussion forums, to facilitate interaction among club members.
- Integration with **SQLite** efficient data storage and management.

Experience

Parallel and Distributed Computing Lab Manual, Team Leader.

Department of Computer Science, IIT Kottayam

(Nov 2024 – Dec 2024)

- Led a team of 9 members to create a comprehensive lab manual for the "Parallel and Distributed Computing", covering all labs and exercises relevant to the course.

Content Writing Volunteer (AI and ML)

Earth5R

(May 2024 – June 2024)

- Researched sustainability in AI and machine learning, publishing insights on the Earth5R platform.
- Technologies:** CNN, ANN, SVM, Regression (Python).

Achievements

- Solved **1000+** problems across platforms like LeetCode, GFG, CodeChef and Codeforces.
- 4-star** CodeChef coder (Max rating:1803).
- Secured **Global Rank 44** in CodeChef Starters 137 Division 3.
- Leetcode rating: 1885 (**Top 4.87%**) Level: **Knight**.
- Completed a **200-day** daily challenge streak on LeetCode, solving 450+ problems.

Skills

- Languages:** C++, Python, Java, JavaScript.
- Libraries:** TensorFlow, Scikit-Learn, Pandas, NumPy, Matplotlib.
- Applications:** RESTful APIs, Database Integration (SQL/NoSQL), Microservices, Classification, Regression, Computer Vision, Natural Language Processing.
- Data Structures and Algorithms**
- Competitive Programming:** CodeChef, Codeforces, LeetCode.