

Sai Mohan Gajapaka

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EDUCATION

M.S. in Data Science - Michigan State University, East Lansing, MI
B.Tech in Information Technology - [VNR VJIET](#), Hyderabad, India

Aug 2023 - Expected May 2025
Jun 2017 - Jun 2021

EXPERIENCE

Graduate Research Assistant

Oct 2023 – Present

Michigan State University

East Lansing, MI

- Designed, implemented, and fine-tuned foundation segmentation models, resulting in a 95% Dice Score improvement for high-resolution drone image analysis.
- Created and annotated a custom dataset from scratch, enhancing model training quality and performance, leading to more accurate segmentation results.

Research Assistant

Jan 2023 – Aug 2023

Centre of Visual Information Technology (CVIT), IIT-Hyderabad

Hyderabad, India

- Developed and tested an interactive segmentation technique with U-net architecture, improving segmentation accuracy of 2D and 3D medical images by 20%.

Deep Learning Researcher

Dec 2021 – Dec 2022

Zebu Intelligent Systems (Purecode Software)

Hyderabad, India

- Led the development and fine-tuning of a YOLO model for precise web component detection and managed the data creation team to ensure the integrity of training and testing datasets, significantly boosting the reliability and efficiency of machine learning workflows and interface design processes.
- Engineered a custom tree data structure to map the spatial hierarchy of detected web components, facilitating efficient layout analysis and component relationship management.
- Employed BERT's transformer architecture to enhance text understanding for automated code generation, significantly improving the efficiency and accuracy of converting layout descriptions into syntactically correct HTML and CSS code, streamlining development workflows.

Undergraduate Research Assistant

Dec 2021 – Dec 2022

VNR VJIET

Hyderabad, India

- Analyzing Finger Tip Data for Cardiovascular Disease Diagnosis:
 - Developed a cardiovascular diagnostic framework using (collected real-time) PPG and ECG data, wavelet transformation (DT-CWT), and LSTM/GRU models.
- Machine Learning Approach for Plant Disease Identification Using Leaf Images:
 - Implemented Bilinear convolutions, enhancing standard convolution performance by providing visual attention for leaf infection detection.
- Automatic Diagnostic Model for Malaria Parasites Detection from Microscopic Images:
 - Improved malaria parasite detection by addressing CNN limitations and enhancing standard CNN performance.

TECHNICAL SKILLS & SERVICES

Programming: Python (PyTorch, TensorFlow, sklearn, CUDA, OpenCV), C++, Shell Scripting

Databases & Search: MySQL, MongoDB

Tools & Technologies: Docker, Flask, Django, Git, Jira

ML Concepts: Regression, Classification, Clustering, Boosting Trees, Gradient Boosting, Deep Learning

Relevant Courses: Computer Vision, Parallel Computing, Data Structures and Algorithms.

PUBLICATIONS

- Framework for Plant Disease Classification Using Deep Bilinear CNNs** — Tech Science Press — [DOI](#) — Cited by 25
- Attention based Neural Architecture for Arrhythmia Detection** — Tech Science Press — [DOI](#) — Cited by 8
- PPG Signal Classification Using GRU** — Springer — [DOI](#) — Cited by 2
- Predicting CHD Using Deep Learning** — IEEE — [DOI](#) — Cited by 4
- Attention Block Embedded in Standard CNN for Image Classification** — IEEE — [DOI](#) — Cited by 1

Total Citations: 40