ABHIRAM DODDA

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EDUCATION

Master of Science in Computer Science and Engineering　　　　August 2025 - Present
Pennsylvania State University
Coursework: Vision and Language, Machine Learning, Computer Architecture

Bachelor of Technology in Computer Science and Engineering　　　December 2021 – June 2025
Gokaraju Rangaraju Institute of Engineering and Technology, CGPA: 9.38/10
Related Coursework: Artificial Intelligence, Machine Learning, Compiler Design, Computer Organization, Computer Graphics, Computer Networks, Operating Systems, Linear Algebra and Differential Calculus, Differential Equations and Vector Calculus, Probability and Statistics, Desing and Analysis of Algorithms, Database Management Systems.

PROFESSIONAL AND RESEARCH EXPERIENCE

Software Development Intern | Platform3Solutions　　　　May 2025 – July 2025
- Developed an internal tool leveraging RAG and LLMs to enable employees to interact with project documents.
- Implemented role-based query architecture by leveraging ChromaDB's vector search and metadata features to enforce secure, permission-aware access to document content.
- Built scalable API endpoints to manage document ingestion, updates, and deletions dynamically.

Data Science Intern | Captain Fresh　　　　March 2025 – June 2025
- Worked on a research project to develop and test a metric from spectral data to model and quantify pond health conditions; integrating the metric into a predictive system as part of a digital twin framework.
- Conducted exploratory data analysis (EDA) on satellite-derived spectral indices to identify correlations with shrimp pond health and spectral bands.
- Applied feature engineering techniques to extract informative patterns and enhance model performance.

Research Intern | IIIT Hyderabad　　　　May 2024 – December 2024
- Conducted research on advanced information retrieval techniques, with a focus on extracting meaningful insights from large-scale judicial datasets.
- Worked on "An approach for evaluation of contextual word embeddings" for Indian languages.
- Fine-tuned BERT-based models to check the effects of synonyms and grammar on the context of sentence-level sentiment analysis. Built a Telugu sentiment dataset to experiment on the hypothesis formulated.

Research Assistant | GRIET　　　　September 2023 – March 2025
- Assisted professor with Medical Image Analysis, Computer Vision, and Optimization techniques.
- Developed a two-stage plant disease classification architecture that outperformed existing CNN models by 3%
- Developed ensemble learning models for retinal disease classification and retinal blood vessel segmentation which outperformed existing models.

PUBLICATIONS

Dodda Abhiram*, K. Anuradha, V.Srilakshmi, K. Adilakshmi, "A Novel Two-Stage Deep Learning Framework for Plant Disease Detection"**,** 5th IEEE Global Conference on Advancement of Technology(GCAT) 2024

Tabitha Indupalli*, **Dodda Abhiram***, Rayapuraju Srivatsav, Singamsetty Aashrith, Vudiga Vineeth, "A Novel Deep-Learning Based Classification of Skin Diseases", 5th IEEE Global Conference on Advancement of Technology(GCAT) 2024

Dodda Abhiram*, R. Aruna Flarance, V. Srilakshmi, K. Anuradha, "Deep Learning and OCT Imaging: A Novel Ensemble Approach for Eye Disease Diagnosis"**,** 4th International Conference on Cognitive & Intelligent Computing (ICCIC-2024) (Accepted and Presented)

Dodda Abhiram*, Y. Ekantha Sai, B. Siddarth Mahesh, K. Anuradha, B. Sankara Babu, "Ensemble Approach for Blood Vessel Segmentation in Retinal Images: Combining UNet and SegNet", 4th International Conference on Intelligent Systems & Sustainable Computing (ICISSC -2024) (Accepted and Presented)

PATENT

Smart Glasses for Visually Impaired Individuals – Sreejyothsna Ankam, Manav, **Abhiram Dodda**, Dinesh Chandra, Nagireddy Padmakshaya. IPOJournal Application No.202541000874. I developed the Computer Vision software.

PROJECTS

InfluencerApp : Full-Stack Application for out-sourcing advertising contracts
- Developed a full-stack web application using Flask (backend) and Vue.js (frontend) for 3 roles (users).
- Implemented backend jobs using Celery and caching using Redis reducing API response time by 20%.

SignComm : Two-way real-time sign language translation
- Used pre-trained InceptionResNetV2 with an accuracy of 97% for sign language detection.
- Pipeline of speech to text, text processing, translation and rendering for speech to sign-language conversion.

FarmEase : Two-Stage Disease Classification System for Agricultural Use
- Implemented a hierarchical image classification system for 38 plant diseases detection using a two-stage approach.
- Designed a novel Deep CNN architecture with transfer learning, achieving 98.8% accuracy.

TabBucket : Extension to copy and open multiple links with ease
- Implemented in JavaScript and is available on Chrome, Edge and Firefox.
- Currently 70 users are actively using the extension on Chrome.

SKILLS

Python, C, C++, Java, JavaScript, SQL, VueJs, Flask, Django, NoSQL, Git, OOPs, TensorFlow, PyTorch, JAX, CUDA, SQLite, PostgreSQL, MongoDB, Linux, Image Processing, Computer Vision, Machine Learning, Deep Learning, Information Retrieval, LaTeX

ACHIEVEMENTS

Gokaraju Rangaraju Institute of Engineering and Technology Academic Excellence Award 2021-2022

Gokaraju Rangaraju Institute of Engineering and Technology Merit endowment award 2022-2023

Gokaraju Rangaraju Institute of Engineering and Technology Merit endowment award 2025

CERTIFICATIONS

- Harvard's CS50x: CS50's Introduction to Computer Science, EdX and HarvardX
- Foundational Certificate part of IIT Madras Online BS degree program in Data Science and Applications
- Data Science for Engineers by IIT Madras, NPTEL – Top 5% in Nation-wide examination
- An Introduction to Programming through C++ by IIT Bombay, NPTEL

SERVICE AND MEMBERSHIP

- Senior Mentor – Advanced Academic Center (Dec 2023 – Oct 2024): Taught Deep Learning and mentored 30 students
- Junior Mentor – Advanced Academic Center (Dec 2022 – Oct 2023): Taught Python and Machine Learning, mentored 8 students
- Training and Development Coordinator - Advanced Academic Center (Oct 2023 – Oct 2024): Headed training and development wing of the club, and initiated an open-source program.