BALA PAVANI KOPPURAVURI

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EDUCATION

Master of Science, Georgia State University   August 2025 - Present
Computer Science **GPA 4.2/4.3**

Bachelor of Technology, SRM University AP   August 2021 - May 2025
Computer Science and Engineering **CGPA 9.04/10**

WORK EXPERIENCE

Georgia State University - MORSE Lab (Volunteer)   January 2026 - Present
- Involved in the collection of EEG and heartbeat rate datasets for brainwave analysis and neurological signal processing.
- Attend weekly MORSE Lab meetings, actively participating in research discussions by sharing ideas and feedback with researchers.

Georgia State University (Graduate Teaching Assistant)   August 2025 - Present
- Mentoring 150+ students in Data Structures using Python course and Principles of Computer Science course.
- Assisting in development of course material, grading and related research.

Coincent (Data Science Internship)   October 2023-December 2023
- Developed Surprise Housing Case Study by data preprocessing and building ML model using GridSearchCV and Ridge Regression, which is used to model the price of houses with available independent variables.
- Data cleaning, Exploratory data analysis, Data preparation is done on imported dataset

SRM University AP (Summer Research Internship)   June 2023-August 2023
- Research on how machine learning is used in Person Authentication and EEG datasets by implementing SVM, KNN.

PUBLICATIONS

Journal (Published - Scientific Reports)   August 2025

Ch Madhu Bhushan, **Priya Koppuravuri**, Nomitha Prasanthi et al. Deploying TinyML for Energy-Efficient Object Detection and Communication in Low-Power EdgeAI Systems. (Journal Link)

Conference (Accepted - IEEE CINE)   January 2026

Ch Madhu Bhushan, **Priya Koppuravuri**, Nomitha Prasanthi B, Firoz Gazi, Md. Muzakkkir Hussain " Multi-Controller TinyML Architecture for Object Detection with Efficient Communication and Applications"

Patent (Published - Intellectual Property India)   September 2025

Koppuravuri Bala Pavani Lakshmi Priya, Chakka Madhu Bhushan, Nomitha Prasanthi Bisiringi, Fazal Shaik, Siripalli Hemanth Durga Kumar, Firoz Gazi, Md. Muzakkkir Hussain "Multi-Controller TinyML Architecture for Object Detection with Efficient Communication and Applications" - Patent Application Number: **202541087210**.

Patent (Published - Intellectual Property India)   August 2025

Chakka Madhu Bhushan, **Koppuravuri Bala Pavani Lakshmi Priya**, Surayya Aruvanpuzha, Firoz Gazi, Md. Muzakkkir Hussain, Dinesh Reddy Vemula "System and Method for Air Quality Monitoring and Alert Generation using Artificial Intelligence" - Patent Application Number: **202541000511**.

Patent (Published - Intellectual Property India)   October 2024

Fazal Shaik, Meka Naga Nandini Devi, Surayya Aruvanpuzha, Chakka Madhu Bhushan, **Koppuravuri Bala Pavani Lakshmi Priya**, Firoz Gazi, Mohammad Abdussami, Md. Muzakkkir Hussain "ATTENDEDGE: An Edge-AI-based Smart Attendance System using 3D Object Detection" - Patent Application Number: **202441077282**.

Book chapter (Published)   October 2025

Farha Fatma, **Priya Koppuravuri**, Pratyusha Ghanne, Firoz Gazi, Md.Muzakkkir Hussain "Development of a Deep Learning model for OCT image classification for Central Serous Chorioretinopathy", In Transformtive Technologies in Healthcare: A Deep Dive into AI and Machine learning, Cambridge Scholars Publishing. (Book Chapter Link)

PROJECTS

Brain Tumor segmentation using GVF Snakes — Active Contour models, Dice Coefficient January 2026 - Present
- Currently implementing a parametric active contour model using energy minimization for medical image segmentation.
- Extending the model with Gradient Vector Flow (GVF) to address instability in traditional snake algorithms.

Property Pulse — FCM, Flutter, Firebase, Cloudinary (GitHub Link)   November 2025 - December 2025

- Designed an interactive real estate exploration app enabling personalized property discovery, shortlisting, geolocation-based search, and direct buyer - seller engagement.
- Implemented Firebase Authentication, Firestore-backed listings, Cloudinary image management, and real-time push notifications using FCM for instant seller alerts and user interactions.

Campus Swap & Freecycle — Flutter, Firebase, Cloudinary (GitHub Link)   September 2025 - October 2025

- Developed a campus marketplace app enabling item swapping, selling, and freecycling with token-based transactions, geolocation listings, wishlist, and reviews.
- Implemented secure Firebase authentication, Firestore database management, and Cloudinary image uploads with a clean, user-friendly Flutter UI.

Lung Cancer Detection using CNN (GitHub Link)   November 2024 - December 2024

- Built a deep learning model to classify lung cancer into Adenocarcinoma, Benign and Squamous Cell Carcinoma to provide an intuitive interface for easy use by healthcare professionals.
- Analysis is done by using ResNet50 model and of all train test splits using classification metrics accuracy is improved.

Comparative Analysis of LEACH and EDEEC protocols (GitHub Link)   January 2024 - May 2024

- Compared LEACH and EDEEC protocols and their cluster head selection techniques.
- Modified LEACH protocol by adding an improvement.

Chatbot for mental health support (GitHub Link)   January 2024 - May 2024

- Developed using MERN stack aims to provide mental health support through an AI chatbot.
- Functionalities include user registration, login, using chatbot, session booking and access to previous booked sessions.

SKILLS & CERTIFICATIONS

Programming Languages	Python, C++, Java, ReactJS, JavaScript, TypeScript.
Systems & SE	OOP, DSA, Multi-threaded Programming, Multi-core Systems, System Performance Optimization, Complex Software Debugging, Linux.
Databases & Data Tools	MySQL, MongoDB, Relational Databases, Data Analysis, Tableau
ML & AI	TinyML, IoT, TensorFlow Lite, PyTorch, Scikit-learn, Deep Learning, Computer Vision, LSTM, VGG, NLP, LLMs, RAG.
Web & App Development	Flutter, Dart, REST APIs, Flask, Firebase (Authentication, Firestore), Cloudinary, FCM.
Professional Tools	Git, GitHub, VS Code, Google Colab, Visual Studio, Android Studio.
Transferable Skills	Attention to Detail, Technical Communication, Problem Solving, Mentorship, Collaboration, Time Management.
Certifications	Coursera - Deep Learning, NPTEL - Electronic Systems for Cancer Diagnosis, Design & Implementation of Human-Computer Interfaces, Data Base Management System, Soft Skills.