

GIRIDHAR R

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PROFESSIONAL SUMMARY

Aspiring Software Engineer passionate about developing AI-integrated software solutions and eager to solve real world problems.

EDUCATION

Amrita Vishwa Vidyapeetham, Computer Science And Engineering
CGPA:7.53

Chennai

CourseWork: Data Structures and Algorithms, Object-Oriented Programming, Database Management Systems, Operating Systems, Computer Networks, Software Engineering.

PROJECTS

Community Driven Sustainable Development Using Data-Driven Solutions, *PRA, Stakeholder Engagement, Data Analysis(Python)*

05/2025 – Present

- Conducted **field research in a North Eastern Village** engaging with **50+ community members** through participatory rural appraisal methods.
- The village data analysis revealed critical issues such as **60%** of the households without piped water, **96%** lacking waste management facilities, and frequent power outages.
- Collaborated with rural communities to design and implement data driven, technology based sustainable solutions

Predictive Model for Bimetallic Nanoparticle Stability,
Python, Scikit-Learn, Pandas, NumPy

08/2025 – Present

- Designing a Machine Learning framework to predict the formation energy and stability of bimetallic nanoparticles(Coau), aiming to achieve high predictive accuracy $R^2 > 0.99$.
- Planned analysis of 156,000 DFT simulation samples and over 1,000+ structural/physicochemical features to identify critical properties influencing nanoparticle stability.
- Goal:** To establish a **fast and practical material screening alternative** to time-consuming DFT simulations for efficient materials discovery.

Smart Accident Detection & Notification System,
Python, OpenCV, CNN, Twilio, Geopy

01/2024

- Developed a CNN-based real-time accident detection model with **90%+** accuracy using OpenCV for video frame analysis.
- Automated **instant alerts (within 5–7 sec)** via Twilio & Geopy, reducing emergency response delays significantly.
- Enhanced reporting with **customizable geo-tagged notifications**, making it more informative than traditional systems

SKILLS

Programming and Core Concepts: Python,HTML, SQL, OOPS, Computer Networks, Project Management,SDLC.

Tools: GitHub, VS Code, MYSQL,PRA,Google Colab, Google Antigravity.

ML and DS: Basic proficiency in Machine Learning (TensorFlow,Scikit-learn), Data Visualization (Matplotlib).

Soft Skills: Communication and Collaboration ,Analytical Thinking,Problem Solving.

PUBLICATIONS

Title: Community-driven Sustainable Development Through Human-Centred Design and Participatory Rural Assessment
Co-author, SSRN (Elsevier) ↗

11/2025

Road Safety Hackathon, IIT Roorkee: Achieved **2nd position** in the Accident Prediction & Prevention category ↗ (Jan 2024)
Mython Data Hackathon, IIIT Sricity: Achieved **3rd place** in a data analytics hackathon.(Feb 2024)
HacksDay Hackathon, 0 x day: Worked on real-world problem statements and solution refinement (Dec 2024) ↗
IndustriAI Hackathon, IIT Madras: Participated and attended workshops during Shaastra 2025.(Feb 2025) ↗
Live in Labs, Amrita Vishwa Vidyapeetham, Chennai: Field Research Participant.(May 2025) ↗
Foundations: Data, Data, Everywhere ↗
Google Data Analytics Professional Certificate — Ongoing