

Sai Karthik Nallamothu

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SKILLS

- **Programming Languages:** Python, C++, Java, JavaScript, SQL
- **Web Technologies:** HTML5, CSS3, React, Node.js, Express.js
- **Database Systems:** MySQL, MongoDB, SQLite
- **Data Science & Machine Learning:** scikit-learn, TensorFlow, Keras, PyTorch, Pandas, NumPy
- **Cloud Technologies:** AWS, Microsoft Azure
- **DevOps & Version Control:** Git, GitHub, Docker, Jenkins
- **Specialized Area:** Machine Learning, Deep Learning, Time Series Analysis
- **Mathematical & Statistical Tools:** Excel, Statistical Analysis, Probability
- **Other Tools & Technologies:** Jupyter Notebook, VS Code, Postman, Tableau
- **Research Skills:** Literature Review, Data Analysis, Experiment Design, Report Writing, Academic Publishing, Presentation Skills

EXPERIENCE

- **SRM University-AP** 🌐 Aug 2023 – Present
Research Assistant On Campus
 - Developed a real-time intrusion detection model using Genetic Algorithm for feature selection in cybersecurity.
 - Designed an early autism screening model and a saffron adulteration detection prototype using federated learning.
- **TULIP Lab** 🌐 Jun 2024 – Sept 2024
Research Intern Virtual
 - Conducted time series anomaly detection using PyOD, DeepANT, STUMPY, and scikit-learn under the guidance of Prof. Gang Li at TULIP Lab, Deakin University.
 - Implemented Isolation Forest, Gaussian Mixture Model, and AutoEncoder with comparative evaluation of their performance.

EDUCATION

- **SRM University-AP** Aug 2021 – Present
B.Tech in Computer Science and Engineering (Specialization in AI and ML) Andhra Pradesh, India
 - Project: Permutation Effects in Multilingual Summarization using Transformers via Ordered Evaluation
 - GPA: 8.82/10
 - Relevant coursework: Machine Learning, Data Structures and Algorithms, Operating Systems, Computer Organization and Architecture, Artificial Intelligence.

PROJECTS

- **Multi-Model Disease Classification and Prediction** 2024
Tools: Python, sklearn, seaborn, matplotlib, Jupyter Notebook [🔗]
 - Developed ML models to classify Breast Cancer, Diabetes, Heart Disease, Lung Cancer, and Parkinson's Disease.
 - Achieved 96% accuracy through efficient preprocessing and model tuning techniques.
- **ANN Optimization using Genetic Algorithm and Fuzzy Logic** 2024
Tools: Python, sklearn, matplotlib, tensorflow, seaborn, skfuzzy, deap, Jupyter Notebook [🔗]
 - Designed ANN system with Genetic Algorithm for hyperparameter tuning on MRI-based dementia dataset.
 - Utilized VGG16/VGG19 for feature extraction and applied fuzzy logic for robust classification.
- **Intrusion Detection using Machine Learning and Deep Learning** 2024
Tools: Python, sklearn, seaborn, matplotlib, Jupyter Notebook [🔗]
 - Analyzed KDD'19 dataset using classifiers like Naive Bayes, Random Forest, and MLP.
 - Improved accuracy by implementing feature selection and preprocessing pipelines.

[C.1] **Application of Machine Learning Algorithms and Feature Selection using Genetic Algorithm: A Case Study on Cyber Attack Detection.** In *Proceedings of the 9th International Conference on Innovations in Information and Communication Technology (I2CT)*, 2024.

[C.2] **Comparative Analysis of Feature Representations for Topic Modeling with Latent Dirichlet Allocation.** In *Proceedings of the 15th International Conference on Computing, Communication and Networking Technologies (ICCCNT)*, IIT Mandi, 2024.

[C.3] **Early Childhood Autism Screening Through Facial Feature Extraction.** In *Proceedings of the 8th International Conference on Parallel, Distributed and Grid Computing (PDGC)*, 2024.

[C.4] **Assessment of Data Augmentation Paradigms in Pathology Identification.** In *Proceedings of the 22nd International Conference on Information Technology (OCIT)*, 2024.

[P.1] **A System for Autism Spectrum Disorder Detection.** Patent Office of India, Patent ID: 20244105350. Publication Date: 2024.

[P.2] **A System and Method for Detecting Adulteration in Saffron using Federated Learning.** Patent Office of India, Patent ID: 202441074334. Publication Date: 2024.

CERTIFICATIONS

• Database Management System – IIT Kharagpur (NPTEL)	Sep 2023
• Data Analytics Essentials – Cisco Networking Academy	Jul 2023

EXTRACURRICULARS AND ACHIEVEMENTS

• Gold Medal – 9th Research Day SRM University – AP	March 2024
◦ Awarded for outstanding undergraduate research in Multilingual based Hybrid summarization.	
◦ Recognized for technical innovation and practical impact in academic research.	
• Travel Grant & Patent Grant Recipient SRM University – AP	May 2024
◦ Secured institutional funding to present research at international conferences and file a patent.	
◦ Encouraged for academic excellence, innovation, and research dissemination.	

CODING PLATFORMS

- CodeChef: [sai14karthik](#)
- LeetCode: [sai14karthik](#)
- GeeksforGeeks: [sai14karthik](#)

REFERENCES

1. **Dr. Tapas Kumar Mishra**
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SRM University – AP
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Relationship: Undergraduate Project Advisor and Research Guide

2. **Prof. Nitul Dutta**
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