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 – May 2025*
  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.

- **Deakin University (TULIP Lab)[🌐]** *Jun 2024 – Sept 2024*
  Research Intern Virtual
  - Conducted time series anomaly detection using various open source libraries such as PyOD, DeepANT, STUMPY, and scikit-learn.
  - Implemented Isolation Forest, Gaussian Mixture Model, and AutoEncoder with comparative evaluation of their performance.

EDUCATION

- **University of Central Florida** *Aug 2025 – Present*
  M.S. in Computer and Information Sciences Florida, USA

- **SRM University-AP** *Sept 2021 – Jun 2025*
  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: 9.0 / 10
  - Relevant Coursework: Machine Learning, Data Structures and Algorithms, Operating Systems, Computer Organization and Architecture, Artificial Intelligence

PROJECTS

- **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** *April 2025*
  SRM University – AP
  ○ 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** *April 2024*
  SRM University – AP
  ○ 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
- **k Kaggle:** sai14karthik

REFERENCES

1. **Dr. Tapas Kumar Mishra**
   Assistant Professor, Department of Computer Science and Engineering
   SRM University – AP
   Email: tapas.m@srmap.edu.in
   Relationship: Undergraduate Project Advisor and Research Guide

2. **Prof. Nitul Dutta**
   Professor, Department of Artificial Intelligence and Data Science
   Chaitanya Bharathi Institute of Technology– TG
   Email: nituldutta@gmail.com
   Relationship: Project Supervisor and Academic Mentor

3. **Prof. George Ghinea**
   Professor, College of Engineering, Design and Physical Sciences
   Brunel University London
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   Relationship: Research Collaborator and Mentor

4. **Dr. Satish Anamalamudi**
   Associate Professor, Department of Computer Science and Engineering
   SRM University – AP
   Email: sathish.a@srmap.edu.in
   Relationship: Academic Guide and Research Collaborator