

Sripadam Sujith Sai

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Education

Indian Institute of Technology (IIT), Hyderabad

Bachelor of Technology in Chemical Engineering

Hyderabad, India

Jul 2024 - Jun 2025

- Exchange student to IIT Hyderabad
- **Courses:** Machine Learning, Cardiovascular Mechanics, Computational Fluid Dynamics, Optimization, Material Science, Polymer science

National Institute of Technology , Rourkela

Bachelor of Technology in Chemical Engineering

Rourkela, India

Dec 2021 - Jun 2025

- **Courses:** Fluid dynamics, Thermodynamics, Deep Learning, Statistical Mathematics

Research

University of Cambridge

Multimodal computational modelling for evaluating mental wellbeing from Robot data

Cambridge, UK

Feb 2024 - Current

- **Instructor :** Professor Hatice Gunes
- Working on computation of feature graph representations from human behaviour primitives
- Developing multimodal computational modelling for automatically evaluating mental wellbeing.
- **Technical Skills:** Python with PyTorch, Tensorflow, Deep Face, C++.
- **Relevant topics:** Representation Learning, Graph Neural Networks, Computer vision, Deep Learning.

Indian Institute of Technology, Hyderabad (IIT H)

Optimization of industrial crystallization process using PINNs

Hyderabad, India

Mar 2025 - Current

- **Instructor :** Prof. Kishalay Mitra
- Working on an optimization problem to optimize continous crystallizers in industries using Physics Informed Neural Networks (PINNs).

Indian Institute of Technology, Hyderabad (IIT H)

Optimization of water networks in Refineries

Hyderabad, India

Aug 2024 - Feb 2025

- **Instructor :** Prof. Kishalay Mitra
- Working on flow optimization problems to optimize water flow in refineries.

INRIA-Institut national de recherche en sciences et technologies du numérique

Predicting Anomalies in Spatio-Temporal Data: Anticipating Future Anomalies in Video Sequences

Sophia Antipolis, France

Jul 2024 - Sep 2024

- **Instructor :** Dr. Francois Bremond
- Working on forecasting future anomalies in video sequences using spatio-temporal modelling.
- **Technical Skills:** Python with PyTorch, OpenCV, Scikit-learn.
- **Relevant topics:** Video Anomaly Detection, Auto-regressive methods, Temporal Modelling, Computer Vision, Deep Learning.

National Institute of Technology Rourkela

Face Detection For Humanoid Robot

Rourkela, India

Aug 2023 - Jan 2023

- Developed a CNN model that utilised YOLO as a foundation to improve the accuracy of face detection for a Humanoid Robot.
- Trained model on a custom dataset. Optimised the model to detect faces from the side view.
- Significantly boosted the model's accuracy by 40% compared to YOLOV5.
- **Technical Skills:** Python with PyTorch, Tensorflow, NumPy, Matplotlib, Pandas, Scikit-learn, C++.

National Institute of Technology Rourkela

Machine Learning Techniques in CO2 capture and conversion to Cyclic Carbonates

Rourkela, India

Aug 2023 - Apr 2024

- Working on Deep learning techniques in Conversion of CO2 to Cyclic Carbonates.
- Building a model to Simulate and automate the process of CO2 capture , Solvent-Selection and design.
- Model takes the sensory inputs as data and outputs Pyrolysis rate, Mass loss, etc.
- **Technical Skills:** Python with PyTorch, Tensorflow, Chemical Reaction Engineering, NumPy, Matplotlib, Pandas, Scikit-learn, C++.

Publications

- S. Sai *et al.*, “**QGAPHnet: Quantum Genetic Algorithm Based Hybrid QLSTM Model for Soil Moisture Estimation,**” *Proc. IEEE IGARSS*, 2024. arXiv | IEEE Xplore
- A. Sen, S. Sai, C. Mallick, S. Roy, and U. Sen, “**HBO-DEViT: Vision Transformer Based Attention-Guided Evolutionary Architecture for Ship-Iceberg Categorisation in Arctic SAR Images,**” *Proc. IEEE IGARSS*, 2024. arXiv | IEEE Xplore
- A. Sen, U. Sen, M. Paul, A. P. Padhy, S. Sai, A. Mallik, and C. Mallick, “**QGAPHensemble: Combining Hybrid QLSTM Network Ensemble via Adaptive Weighting for Short Term Weather Forecasting,**” *arXiv preprint*,

Membership of Professional Societies

American Institute of Chemical Engineers(AIChE) 2021-2025

Skills

Programming Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.), Tensorflow, Keras, C/C++, HTML/CSS, JavaScript, React.
Softwares Autocad, Aspen

Achievements

2024	Winner , Smart India Hackathon	India
2023	Top 300/32000+ , Amazon ML Summer School	India
2022	Winner , Codes de Caza	India
2022	Rank 3 , Chem-E-Jeopardy	India
2019	Finalist , Inspire - National Science Challenge	India
2021	Top 2% , JEE Mains	India

Links

LinkedIn: <https://www.linkedin.com/in/sripadam-sujith-sai>
Github: <https://github.com/SujithSaiSripadam>
Portfolio: <https://sujithsaisripadam.github.io/>