Sripadam Sujith Sai

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Career Objective

Motivated student with a strong passion for research-driven innovation, specializing in Computer Vision and Deep Learning. Committed to developing innovative solutions that bring about substantial positive change. Possesses expertise in Computer Vision, Human-Robot interaction, and Deep Learning. Seeking a challenging role to apply skills and contribute meaningfully to the field.

Education

National Institute of Technology , Rourkela *Rourkela, India*

Bachelor of Technology in Chemical Engineering *Dec 2021 - Current*

- Memeber of AIChE (American Institute of Chemical Engineers)
- Working as a Student Mentor
- **Courses:** Fluid dynamics, Thermodynamics, Deep Learning, Statistical Mathematics

Research

National Institute of Technology Rourkela *Rourkela, India*

Face Detection For Humanoid Robot *Aug 2023 - Current*

- 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++.

IIEST Shibpur (Collaboration) *Rourkela, India*

Emotion Detection and Body language co-relation using ViViT *Jul 2023 - Current*

- Developed a model that utilised YOLO as a foundation to improve the accuracy of face detection on Realtime.
- Optimised the model to detect faces from the side view.Augumented and labelled custom dataset and trained the model.
- Implemented Graph Neural Networks & Video Vision Transformers to analyse body language and motion.
- **Technical Skills:** Python with PyTorch, Tensorflow, NumPy, Matplotlib, Pandas, Scikit-learn, C++.

National Institute of Technology Rourkela *Rourkela, India*

Machine Learning Techniques in CO2 capture and conversion to Cyclic Carbonates *Aug 2023 - Current*

- 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

IEEE IGARSS | 2024 *(Under Review)*

Conference

- Authored a research paper proposing an HBO-DEViT algorithm to enhance the accuracy of iceberg and ship detection in Arctic SAR (Synthetic Aperture Radar) images.

Projects

Computer Vision Approach to Pneumonia Detection in Chest X-rays

Pneuma-Scope *July 2023*

- Constructed a robust Convolutional Neural Network (CNN) model using Tensorflow for precise and reliable pneumonia prediction.
- Skillfully preprocessed a vast collection of 6000+ chest x-ray images, enhancing model training quality.
- Attained an exceptional training accuracy of 97%, showcasing the effectiveness of the CNN architecture.
- **Technical Skills:** Tensorflow, Matplotlib, Numpy, Pandas.

Advanced Handwritten Digit Recognition Using Convolutional Neural Networks

NeuroDigits *June 2023*

- Constructed a Convolutional Neural Network (CNN) using TensorFlow for handwritten digit recognition.
- Trained the CNN model utilizing a dataset of over 40,000 images of handwritten digits.
- Attained an impressive training accuracy of 0.989, showcasing the effectiveness of the model.
- **Technical Skills:** Tensorflow, Matplotlib, Numpy, Pandas.

Membership of Professional Societies

American Institute of Chemical Engineers(AIChE) 2021-present

Skills

Programming Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.), Tensorflow, Keras, C/C++, HTML/CSS, JavaScript, React, Latex.
Softwares Autocad, Figma
Miscellaneous LaTeX(Overleaf/R Markdown), Microsoft Office, Git.
Soft Skills Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

Achievements

2023 **Top 300/32000+,** Amazon ML Summer School *India*
2022 **Winner,** Codes de Caza *India*
2022 **Top 2%,** Codechef Starters 38 *India*
2022 **Rank 3,** Chem-E-Jeopardy *India*
2019 **Winner,** NSO-National Science Olympiad,School Level *India*
2019 **Finalist,** Inspire - National Science Challenge *India*
2021 **Top 2%,** JEE Mains *India*

Courses and Specializations

SUPERVISED MACHINE LEARNING *Jun 2023*

Stanford University | Coursera

- Build machine learning models in Python using popular machine learning libraries NumPy and scikit-learn
- Build and train supervised machine learning models for prediction and binary classification tasks, including linear regression and logistic regression
- **Technical Skills:** Python, NumPy, Matplotlib, Pandas, Scikit-learn.

DEEP LEARNING *Jul 2023*

IBM | Coursera

- Built deep learning models in tensorflow and keras libraries
- Built and trained supervised deep learning model for classification
- **Technical Skills:** Python, Tensorflow, Keras, NumPy, Matplotlib, Pandas, Scikit-learn.

NEURAL NETWORKS & DEEP LEARNING *Jul 2023*

DeepLearning.ai | Coursera

- Gained skills like Neural Network architecture , back propagation , gradient descent , pooling , convolutions .
- **Technical Skills:** Python, Tensorflow, Keras, NumPy, Matplotlib, Pandas, Scikit-learn.

Communities and Clubs

AIChE Member of Technical team. Club focuses on technological advancements on Chemical Engineering
ML4E Official Member of Data science club of NIT R.
Opencode Member of Opensource and cybersecurity community of NIT R.

Links

LinkedIn: **sripadam-sujith-sai**
Github: **SujithSaiSripadam**
CodeChef: **Sujith**
Kaggle: **Sujith04**
Portfolio: **Sujith**

Languages

English Professional proficiency
Hindi Native proficiency
Telugu Native proficiency