

Sai Prasath Suresh

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OBJECTIVE

[Github](#) [LinkedIn](#)

International student looking for Summer 2023 internships in Software Development, Data Science, and Machine Learning. (Eligible for STEM OPT extension)

EDUCATION

Georgia Institute of Technology

Atlanta, USA

MS in Computer Science - Machine Learning; GPA: 4.0

August 2022 – May 2024

Courses: Machine Learning, Natural Language Processing, Web Search and Text Mining, Algorithms

Indian Institute Of Technology (IIT) Bhubaneswar

Bhubaneswar, India

B.Tech/M.Tech, Computer Science and Engineering; GPA: 9.79/10

July 2017 – May 2022

Courses: Data Analytics, Operating Systems, Computer Networks, Database Management Systems

TECHNICAL PROFICIENCY

Programming Language: Python, C, C++, Java, SQL

Libraries: Tensorflow, Keras, PyTorch, Pandas, Numpy, Matplotlib, Scikit-Learn, NLTK, Open CV

WORK EXPERIENCE

Software Developer - Graduate Assistant, IPaT, GeorgiaTech

Jan'23 - Present

- Developing a **Emergency Management portal using Flask** for detecting flooding in Georgia counties.
- Designing pipelines for processing and storing data in GCP collected from sensors across the Georgia coast.
- Building a dashboard to visualize real-time data which will be used for emergency planning and response.

Deep Learning Intern, Singapore University of Technology and Design

Jan'22 - Apr'22

- Developed a novel **semi-supervised GAN** model for detecting trojan DNNs created by service providers.
- Redesigned existing models to achieve attack-agnostic detection by integrating an **Denoising Autoencoder**.
- Achieved state-of-the-art performance **+3% AUC** on computer vision tasks while minimizing run-time by **15%**.

PUBLICATIONS

[Analysis of Continual Learning Models for Intrusion Detection System](#) - IEEE Access [2022]

[Intelligent Intrusion Detection System for Smart Grid Application](#) - CyberSA [2021]

KEY PROJECTS

Multi-Modal Sarcasm Detection

Aug'22 - Dec'22

- Analysed clips from TV series to detect sarcasm using **VGG16 for images, Librosa for audio and BERT for text** processing. Worked with an imbalanced dataset with 95%-5% split.
- Examined various feature engineering techniques and analyzed the model's performance using **Explainable AI** tools like SHAP and PDP.

Anomaly Detection using Multi-Variate Time Series Analysis

Sep'21 - Dec'21

- Implemented a **dual attention based LSTM/GRU** models to pre-emptively detect anomalies in a power plant.
- Minimized costs by reducing the false alarm rates to **0.21%** with a high detection accuracy of **97.8%**.

Multi-Class Attack Classification using Reinforcement Learning

Jan'21 - Apr'21

- Designed a **Double Deep Q Network (DDQN)** for detecting cyber attacks and dynamically adapt to changes in attacks. Achieved **+6% accuracy** compared to existing benchmarks.
- Investigated the performance of the model on the network data from the cloud based ISOT-CID (8Tb) dataset.

Compositional Epidemiological Modeling of Covid-19

Jul'20 - Sep'20

- Generated optimal control strategies to control the virus by analysing the health vs economic impacts.
- Performed **multi-model comparisons** by implementing agent (Stochastic) and differential equation (Modified SEIR, CovidSim 2.0) based models using **hybrid timed automata**.