

Sriram Nagaraja Rao

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EDUCATION

Master of Science in Computer Science

Purdue University

West Lafayette

August 2021 - May 2023

Bachelor of Science in Computer Science

RV College of Engineering

Bangalore, India

July 2015 - June 2019

COURSES

Advanced Algorithm Design
Statistical Machine Learning
Distributed Machine Learning
Big Data Analytics
High Performance Computing
Operating Systems
Parallel Computing

SKILLS

Languages: Python, C++,
Javascript, Java
ML Frameworks: TensorFlow,
OpenCV, NLTK, Scikit-learn,
MATLAB
Web Frameworks: Django, Flask,
React, React Native
Databases: Postgres, Redis,
MongoDB
Developer tools: Git, Docker, Linux
Distributed Frameworks: Hadoop,
CUDA
Software Design: Object-oriented
design, Agile development

CERTIFICATIONS

- Machine Learning (Coursera)
- Python for Data Science and AI (IBM, Coursera)
- Fundamentals of Reinforcement Learning (Coursera)
- Deep Learning Specialization (deeplearning.ai, Coursera)
- Docker for Beginners (Udemy)
- Deep Learning A-to-Z (Udemy)

MISC EXPERIENCE

Graduate Teaching Assistant

Purdue University

MA16100 - Applied Calculus

Aug 2021- Present

EXPERIENCE

Graduate Student Researcher

Purdue University, Distributed Computing Systems Lab

August 2021 to Present

- Robust Federated ML model:** Developed a federated machine learning system based on a prominent research paper. Proposed and implemented several improvements to make the system robust against Byzantine attacks and failures.

Software Engineer

Cisco Systems

July 2019 to July 2021

- Cisco "App Store":** Developed and deployed a large-scale application store capable of launching and maintaining life cycle of docker apps on thousands of Cisco devices on its private cloud.
- Cisco Apps:** Developed and integrated applications to the App store and made them available to customers. Radware DDoS detection application, Sensor telemetry data collection and analysis tool, HDFS container cluster are some of the applications where I played a major role as a developer.
- Open source** - Integrated CFM network protocol to Microsoft SONiC operating system.

Software Engineer Intern

Cisco Systems

Jan 2019 to June 2019

- Smart Router Initiative:** Developed a hardware failure prediction system using LSTM networks and Cisco router telemetry data. The research and development culminated in a research paper published in IEE Conference if CSITSS, 2019.

PROJECTS AND PUBLICATIONS

Walmart sales prediction – Kaggle (2020)

- Wrote an algorithm based on Light Gradient Boosting Machines (LGBM) to predict number of sales in 3 Walmart stores. Ranked among the top 3% in 5500 teams.

Global Wheat Detection and Reverse tweet sentiment analysis – Kaggle (2020)

- Coded a Kaggle kernel to localize wheat fronds in an image using YOLOv5 pretrained classifier, deep neural network and pseudo labeling.
- Coded a Kaggle kernel to localize the text in tweets corresponding to a given emotion using RoBERTa pretraining model and Deep Learning training model.

Brain-Computer Interface controlled Wheelchair

- Research paper "Using virtual reality to boost the effectiveness of brain-computer interface applications" published in the IEEE CSITSS conference, 2019.
- Developed a Brain-Computer interface controlled Wheelchair using Emotiv Insight, Unity and Arduino.

Bangalore Vision: Road Quality analysis using Android and Stereo Camera

- Technical paper "Road quality analysis and mapping for faster and safer travel" published in IEEE ICECDS conference, 2017.
- One of the 210 teams selected worldwide by OpenCV AI competition in 2021 to implement this solution using Luxonis Stereo Camera.
- Developed a road pothole detection system using MaskRCNN pretrained model. Created a react native mobile application to expose the pothole data to general public and government authorities.

ACHIEVEMENTS AND AWARDS

- Ranked 1st and 2nd place in India in the Cisco SP Innovate Hackathon 2020 and EN-Hacks 2021 respectively.
- 5 Connected Recognition awards at Cisco to recognize my mentoring efforts, teamwork, work ethics and performance.
- K-CET rank of 60 (2015) in the state of Karnataka which procured me an admission at RV College of Engineering.
- Ranked 1st in High School for perfect scores in Mathematics, Computer Science and Science courses.