Sumanth Pandiri

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EDUCATION AND CERTIFICATES

Clemson University: Computer Science (Bachelor of Science): GPA: 3.7/4.0 May 2024

- Theta Tau Professional Engineering Fraternity: Vice Regent, Scribe, STEM Outreach Chair; National Residence Hall Honorary (Community Service and Recognition): President, Secretary; Indian Cultural Association; Table Tennis Club

Machine Learning Specialization: DeepLearning.AI and Stanford Online May 2024

Google IT Automation with Python Professional Certificate June 2022

RELEVANT EXPERIENCE

Mercer Engineering Research Center • Staff Software Engineer Warner Robins, GA • August 2024 – Present

- Delivered a full-stack web application from the ground up for a U.S. Air Force aircraft tracking and maintenance system. Continue to develop and enhance platforms across multiple government contracts—primarily for the Air Force—using ASP.NET, C#, SQL, Bootstrap CSS, Oracle, SQL Server, and MVC.

IDEA Lab • Machine Learning Intern Clemson, SC • May 2023 – August 2024

- Singlehandedly developed a teachable computer vision (image recognition) website for elementary students to learn AI concepts, for the incorporation into a greater narrative-based game fused with an MIT Scratch setting, using transfer learning, Convolutional Neural Networks, Svelte, JavaScript, Tailwind CSS, and Tensorflow.js.
- Implemented the ability for users to customize training parameters, input using either camera input or image file upload, test their machine learning model with live camera feedback, and download their model.

Amazon Web Services (AWS) • Capstone Project Intern Clemson, SC • September 2023 – May 2024

- Architected an integrated user system using AWS Cloud Computing Services in a consulting project for our client, Clemson Makerspace, unifying scattered means of data collection into a centralized data hub, eliminating lengthy, preliminary forms for their users, reducing costs, and collecting user demographics for client stakeholders.
- Incorporated a 3D printing digital interface using Raspberry Pi and OctoPrint, allowing for virtual printing and control, live machine monitoring and management, and automated data collection and storage through Webhooks, APIs, and AWS API Gateway, Lambda, and DynamoDB.

Motion Planning Lab • REU Undergraduate Researcher Charleston, SC • June 2023 – August 2023

- Developed a differential drive implementation of *Human-Inspired Multi-Agent Navigation using Knowledge Distillation*, using reinforcement learning (MDP) and deep learning, and applied it to TurtleBot4 using ROS2, PyTorch, HTC Vive, and Python.

Watt Family Innovation Center • Medical Deep Learning Research Intern Clemson, SC • August 2022 – April 2023

- Developed multitask neural networks, model interpretability, and other deep learning methods for video classifying models that use newborn heart ultrasounds to detect Patent Ductus Arteriosus, using PyTorch, Captum, Python, and Palmetto Cluster (HPC).

Select Student Research, Freelance, and Personal Projects Clemson, SC • August 2021 – May 2024

- CERM Foundation Website: Designed and delivered responsive website for nonprofit organization that reflects their mission, values, goals, and effectively illustrates current and past events and classes.
- SCAB-Aid: Engineering an Arduino device that uses electrical stimulation from electrodes to enhance healing on minor wounds.
- Wearables in Cars: Prototyped a watch software and study to improve driver awareness and assist in various driving scenarios.
- ML with Cybersecurity: Implemented various types of RNN LSTM models and data visualization on the iTrust Lab Secure Water Treatment Testbed (SWAT) Dataset to detect cyber-attacks on industrial systems like this water plant.
- PMS: Implemented data science and ML practices to identify significant differences between Phelan-Mcdermid Syndrome (PMS) patients and control cells, candidate pathways, and subgroups within PMS, using data collected by Clemson researchers.
- Created an automated email server program that pulls recorded attendance member information from Google Sheets and sends absence/fine emails on behalf of the Theta Tau Professional Engineering Fraternity, using Python and SMTP.

SKILLS

Programming Languages: Python, C#, C/C++, SQL, JavaScript, TypeScript, HTML, CSS, Java **Languages:** English, Telugu

Technologies: Amazon Web Services (AWS), ROS2, PyTorch, TensorFlow, Matplotlib, SciKit-Learn, Linux, REST APIs, Git/GitHub, VCS, TFS, ASP.NET, Tailwind CSS, Bootstrap CSS, Oracle, SQL Server, MVC, Svelte, React, Next,js, Vercel, Wix, Raspberry Pi, Arduino, Google Cloud Platform

Methodologies & Practices: Project Ownership, Leadership, Agile, Technical Writing, Consulting, Solutions Architecture

Relevant Coursework: Machine Learning, Applied Data Science, Artificial Intelligence, Cloud Computing Architecture, Programming Systems, Design Analysis of Algorithms, Senior Computing Practicum, Software Engineering, Algorithms and Data Structures, Software Development, Discrete Structures, Computing, Ethics, and Society, Computer Organizations, Network Programming, Operating Systems, Computer Systems Org., Computational Thinking, Calc 1 & 2, Physics 1 & 2, Statistics 1 & 2, CS 1 & 2, Linear Algebra