

SAGAR PATIL

US Citizen | ☎ 848-219-1953 | @sagarreddypatil@gmail.com | 🐙 github.com/sagarreddypatil | 🔗 linkedin.com/in/patilsr
🌐 sagarpatil.me

EDUCATION

Purdue University

B.Sc. in Computer Science

West Lafayette, IN

Class of 2025

SKILLS

Programming: C, C++, Python, Java, C#, Dart, HTML/CSS, Javascript, SQL

Libraries: PyTorch, OpenCV, React, Electron, Express, Flask, .NET, Unity3D, Postgres, CMake, PlatformIO, Arduino

Misc: Git, Linux, VSCode, Vim, Altium Designer, KiCAD, Ansys HFSS, Ansys STK

WORK EXPERIENCE

Ansys Government Initiatives (AGI)

Software Engineering Intern

Exton, PA

Summer 2022

- Performed bug fixes and feature improvements on STK's C++ codebase
- Implemented a framework for easier development of Unit Tests using GTest
- Implemented new RF propagation standards for STK's Communication and Radar component

Bloomberg LP

Software Engineering Intern

New York, NY

Summer 2019

- Worked on an internal web application to manage NLP model training
- Utilized NodeJS, React, Python with Flask, and the Git Version Control System

EXTRACURRICULARS

ACM Special Interest Group on AI (SIGAI)

ML/AI Software Engineer

Purdue University

Since Fall 2021

- Developed a simulation of the 2021 VEX Robotics Game in Unity
- Leveraged Proximal Policy Optimization based Reinforcement Learning to solve the game
- Trained convolutional neural nets and used conventional computer vision techniques to detect game objects
- Utilized ONNX to optimize and convert PyTorch models to run on a Jetson Nano co-processor

Purdue Space Program Liquids

Avionics Engineer

Purdue University

Since Fall 2021

- Developed flight software on embedded systems for Purdue's first liquid-fueled rocket using C/C++
- Wrote embedded peripheral drivers for Flash, ADCs, etc., over protocols such as SPI, I²C and UART
- Designing a live telemetry system for our upcoming rocket set to reach 65,000 feet
- Performing frequency-domain RF simulations using NEC2, Ansys HFSS, and a custom Python library
- Utilized Microsoft Visio for system-level planning, and KiCAD/Altium Designer to design PCBs

PROJECTS

sagarpatil.me | github.com/sagarreddypatil/portfolio-website

- Portfolio website implemented in vanilla HTML/CSS without any frameworks

NLP Chatbot | github.com/sagarreddypatil/nlp-chatbot

- Passed the turing test against 4 of my friends
- A Large Language model prompting project for conversation purposes, interfaced over Discord

Marching Cubes | github.com/sagarreddypatil/Marching-Cubes-Unity

- Implemented the Marching Cubes algorithm in Unity3D to mesh implicit surfaces

AWARDS & ACHIEVEMENTS

President's Volunteer Service Award Gold Awarded for completing more than 250 hours of volunteer service.

Affectiva EMPath Makethon Winner Created a Large Language Model-powered chatbot that considers emotions detected by Affectiva's Human Perception AI