# SAGAR PATIL

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## EDUCATION

**Purdue University**                                                                                      West Lafayette, IN
*B.Sc. in Computer Science*                                                                                   *Class of 2025*

## SKILLS

**Programming:** Python, Java, C#, C/C++, Dart, HTML/CSS, Javascript, SQL
**Technologies:** PyTorch, OpenCV, React, Electron, Express, Flask, .NET, Unity3D, Postgres, CMake, PlatformIO, Arduino

## WORK EXPERIENCE

**Ansys Government Initatives (AGI)**                                                                              Exton, PA
*Software Engineering Intern*                                                                                 *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**                                                                                             New York, NY
*Softawre Engineering Intern*                                                                                 *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)**                                                             Purdue University
*ML/AI Software Engineer*                                                                                    *Since Fall 2021*
- Developed a simulation for the 2021 VEX Robotics Game in Unity
- Leveraged Proximal Policy Optimization based Reinforcement Learning to solve the game
- Helped develop computer vision-based models to detect game objects
- Utilized ONNX to convert PyTorch models to run on a Jetson Nano processor

**Purdue Space Program Liquids**                                                                         Purdue University
*Avionics Engineer*                                                                                          *Since Fall 2021*
- Developed flight software on embedded systems for Purdue's first liquid-fueled rocket
- Wrote low-level drivers for Flash, ADCs, etc., and worked with protocols such as SPI, I$^2$C 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

**Marching Cubes** | *github.com/sagarreddypatil/Marching-Cubes-Unity*
- Implemented the Marching Cubes algorithm in Unity3D to mesh implicit surfaces

**NLP Chatbot** | *github.com/sagarreddypatil/nlp-chatbot*
- A Large Language model prompting project for conversation purposes
- Interfaced with the Discord API to allow for chatbot interaction

## AWARDS & ACHIEVEMENTS

**President's Volunteer Service Award Gold** Awarded for completeting 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