

# Sagar Patil

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🌐 sagarpatil.me

## EDUCATION

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**Purdue University**  
*B.Sc. in Computer Science*

West Lafayette, IN  
*Class of 2025*

## WORK EXPERIENCE

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**Ansysis 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**  
*Analog Design 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

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**ACM Special Interest Group on AI (SIGAI)**  
*Software Developer*

Purdue University  
*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**  
*Avionics Engineer*

Purdue University  
*Since Fall 2021*

- Developed flight software and peripheral drivers for Purdue's first liquid-fueled rocket
- Wrote low-level drivers for Flash, ADCs, etc., and worked with protocols such as SPI, I<sup>2</sup>C and UART
- Designing a live telemetry system for our upcoming rocket set to reach 65,000 feet
- Performing frequency-domain link budget simulations using NEC2, Ansys HFSS, and a custom Python library
- Utilized Microsoft Visio for system-level planning, and KiCAD/Altium Designer to design PCBs

## AWARDS & ACHIEVEMENTS

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**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

## SKILLS

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

**Technologies:** PyTorch, TensorFlow, OpenCV, Matplotlib, Node, React, Vue, Express, Electron, .NET, Flask, Postgres, Unity3D, Arduino

## PROJECTS

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**sagarpatil.me** | [GitHub](#)

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

**NLP Chatbot** | [GitHub](#)

- A Large Language model prompting project for conversation purposes
- Interfaced with the Discord API to allow for chatbot interaction