

Sujay Patel

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EDUCATION

University of North Carolina at Chapel Hill

Chapel Hill, NC

Computer Science B.S., Biomedical Engineering B.S.

Aug. 2022 – May 2026

- **GPA: 3.97/4.00**
- Relevant Coursework: Data Structures and Analysis, Discrete Structures, Scientific Programming, Foundations of Programming, Systems Fundamentals, Calculus 3, Differential Equations

PROJECTS

NBA Premier Stats | *Spring Boot, React.js, PostgreSQL, Scikit-Learn, Webscraping, APIs* [Website](#) | [Source Code](#)

- Successfully created a full stack application using **spring boot** and **react** that displays historic NBA rankings from the last 10 years, and predictions about future player stats using a **scikit-learn** Random Forest Regressor.
- Utilized Jupyter Notebooks and webscraping of the NBA.com site to obtain data of over **400** NBA players for 10 seasons and imported data into a **PostgreSQL** database.
- Connected a public ESPN **API** to display new NBA related news from a variety of sources with options to filter news by factors such as player name and team.

Study Gears | *Spring Boot, APIs, React.js, PostgreSQL*

[Website](#) | [Source Code](#)

- Developed a full stack study bot assistant site that helps students study by utilizing the **OpenAI** and **Youtube APIs** to answer questions and provide videos to answer student questions.
- Utilized **spring boot** to create a user base with features such as allowing students to schedule and plan their tasks with data stored in a **PostgreSQL** database.

Housing Prices Predictor | *Scikit-learn, Django, React.js, HTML/CSS*

[Source Code](#)

- Developed a full-stack machine learning model that predicts housing prices and values from Zillow data.
- Utilized **Scikit-learn** with a **random forest regressor** to predict housing prices, and pre-processed data from over **100** regions with descriptive data analysis done with matplotlib and seaborn.

EXPERIENCE

Research Assistant

Jan 2024 – Present

UNC Department of Physical Sciences

Chapel Hill, NC

- Utilized **Python** and **C++** to successfully run particle simulations of crowd's dynamics in contained spaces to study brownian forces and motion.
- Developed a full fledged simulation that tracks particle movements to within **5%** accuracy of real-time analysis, by using a class to assign properties of particles.
- Successfully integrated simulation model with post analysis using libraries such as matplotlib, numpy, and pandas to extract data for further research.

Undergraduate Teaching Assistant

January 2024 – May 2024

UNC Department of Physics and Astronomy

Chapel Hill, NC

- Lead physics lab sessions with over **50** undergraduate students to explain physics concepts and equipment use.
- Increased student scores on lab reports in my lab section by **10 percent** compared to other lab sections in the same class.

LEADERSHIP AND CLUB ACTIVITIES

Coding Leader

Jan 2024 – Present

Biomedical Devices Club

Chapel Hill, NC

- Taught basic scientific programming in python, and libraries such as numpy and matplotlib to over **40** club members, and demonstrated basic abilities in data processing and analysis.
- Led meetings to teach **C++** in the Arduino IDE for creating circuits and basic electrical devices.

TECHNICAL SKILLS

Languages: Java, Python, C++, C, SQL, JavaScript, HTML/CSS, Swift

Frameworks and Libraries: AWS, React, Node.js, Angular, Django, Bootstrap, NumPy, Matplotlib, pandas

Developer Tools: Git, Docker, XCode, VS Code, IntelliJ