

# ABHINAV SINGH

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## EDUCATION

**Texas Southern University**  
Bachelor's, Computer Science

August 2021 - May 2024

## SKILLS

**Skills:** Agile, AWS, Docker, JavaScript, Git, HTML/CSS, Java, MongoDB, REST APIs, Python, C++, Flask, Dash Plotly, Matplotlib, Anaconda, GraphQL, OpenCV, MySQL, Spring, spring boot, linux, Airflow

## PROFESSIONAL EXPERIENCE

### Logitech

Audio Engineering Intern

Remote

June 2023 - September 2023

- Implemented a Python-based engineering tool that analyzed and improved Biquad Filter designs, yielding a 30% increase in design efficiency and enhancing overall performance metrics for audio devices in consumer testing.
- Refined the DSP filter design methodology, leading to the completion of 15 successful iterations in half the usual time, allowing for quicker adaptation to client feedback and improved product alignment with market demands.

### Meneses Law

Software Developer

Houston, TX, USA

April 2022 - December 2022

- Developed a data analytics dashboard utilizing Python, Flask, and Dash Plotly to automate the import of 150,000 datasets from Facebook and Jive, significantly reducing daily research time for the marketing and sales team by over 80%.
- Implemented an email and text system leveraging Mailchimp, Salesmessage API, and AWS Lambda function, leading to a 19% boost in lead conversion rate and a 12% rise in cases conversion rate.
- Engineered a robust ticketing automation system that eliminated manual project assignment, directly contributing to a 25% increase in team throughput, while allowing the team to focus on high-priority customer issues.

## PROJECTS & OUTSIDE EXPERIENCE

### Data Science Club

Co-founder and Vice-President

Houston, TX, USA

September 2023 - Present

- Established and managed strategic partnerships with industry-leading organizations such as Oracle, Google, and Apple, facilitating workshops and collaborative events to offer hands-on experience and networking opportunities in the data science field.

### Computer Vision Research

Student Researcher

Houston, TX, USA

August 2023 - Present

- Developed a robust computer vision system using Python and OpenCV to analyze high-frame-rate pendulum motion videos, extracting key dynamics such as position, velocity, speed, mass, and time period
- Developed an interactive web platform allowing users to upload pendulum videos for automated analysis and dynamic property presentation, enhancing accessibility for education and research purposes.

### Mortgage Analysis, Rice Datathon

Software Engineer

Houston, TX, USA

January 2022 - January 2022

- Led a team of four in developing a mortgage loan analysis using ML algorithms (SVM, Random Forest) on a dataset of 100,000 individuals. Revealed that non-demographic factors like debt-to-income ratio and credit history had a greater impact on mortgage approval than demographic factors.

### Predicting Recession, Capstone Research Project

Lead ML Engineer

Houston, TX, USA

August 2023 - December 2023

- Developed an SVM model for US recession prediction, achieving 98.7% accuracy—outperforming existing research models with 74.2% accuracy.
- Analyzed economic indicators (CPI, unemployment rate, treasury spread, S&P 500) to assess their impact on model performance and identified limitations of machine learning in economic forecasting.

## CERTIFICATIONS

- IBM zero trust security essentials
- Morgan Stanley HBCU Wall street competition finalist
- Deans List (2021-2024)