

# SASHANK SILWAL

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## EDUCATION

New York University Abu Dhabi (NYUAD)

Abu Dhabi, UAE

Bachelor of Science in Computer Science, GPA: 3.96

August 2019 – May 2023

Minors: Applied Mathematics, Interactive Media

Relevant Coursework: Computer Systems Organization, Linear Algebra, Probability and Statistics, Operating Systems, Intro to Machine Learning, Software Engineering, iOS Programming

## SKILLS

Python (Including Pandas, NumPy, BeautifulSoup, Keras, Pgmpy, scikit-learn), JavaScript, React.js (Including Hooks, Routers, Axios), Node.js (Express), HTML, CSS (Including Bootstrap 4), C++\C, MongoDB, Swift, Firebase

Miscellaneous: LaTeX, Git, Arduino, Figma, XD

## EXPERIENCE

Center For Global Sea Level Change

May 2021 – August 2021

Machine Learning Researcher

Remote

- Implemented and evaluated a probabilistic model for predicting long-term shoreline changes given geomorphological and geologic settings under different sea level rise scenarios; currently adopted by the lab on their app for research purposes
- Recommended alternative solutions and best practices to the team, suggested **Bayesian network architecture** was then adopted by the management team
- Conducted processing, interpolation, projection, etc. on geospatial data to build a dataset of over 12 million data points
- Wrote customized **Python** scripts for maps intersection and model prediction that shortened run time from over 6 hours to under 20 minutes.

New York University Abu Dhabi

September 2020 – May 2021

Student Assistantship, Web Developer

Abu Dhabi, UAE

- Migrated, restructured, and managed NAACP Julius E. Williams Distinguished community service award-winning website ([aacvr-germany.org](http://aacvr-germany.org)) to **WordPress** by using customized Python scripts
- Incorporated Google Analytics to capture pertinent metrics and created custom visualizations on a regular basis
- Increased website page speed load performance by 30% (Based on Google Page insights)
- Utilized **Figma** for prototyping and understanding instructions on page creation requirements of the website.

Cyber #

January 2020 – May 2020

Web Developer

Abu Dhabi, UAE

- Designed and produced the first version of the website for the SIG on time using Twitter **Bootstrap**
- Tested site compatibility for multiple browsers/devices; debugged issues to address experience inconsistencies
- Ensured accessibility and inclusivity of the website for a diverse student body incorporating color-blind friendly design

## PROJECTS

DYOR (<https://github.com/software-students-fall2021/project-setup-dyor>)

MERN stack

- Developed web application to help users better understand the crypto space by incorporating features like sentiment analysis, price prediction, and easy to access coin portfolio
- Built back-end **REST API** in **Express.js**, and served **MongoDB** data to custom-built React application through **React Routers** with **Axios**; Implemented **JWT authentication**

iOS Parstagram (<https://github.com/sashanksilwal/Parstagram>)

Swift, Cloud Storage

- Created an Instagram-like app using **Swift** that allows users to take and post pics. Utilized a custom backend database using Parse to store and retrieve user posts.

Face Mask Detection using transfer learning (<https://github.com/sashanksilwal/FaceMaskDetection>)

CNN, OpenCV

- Developed a complete face tracking and face mask detection solution to monitor mask guidelines violations in real-time
- Tuned hyperparameters and added regularization on the **convolutional neural network** to achieve an accuracy of 90%.

Mapping the Networks of Voltaire's Philosophical Dictionary (<https://git.io/J67cA>)

Python, NLTK

- Analyzed the keywords in the dictionary, using standard **NLP** techniques of **POS tagging**
- Modeled graphs using **Matplotlib** to measure the social network analysis metrics.

## VOLUNTEERING & LEADERSHIP

Vice President of HackAD

January 2021 – May 2021

Python Tutor (Budhanilkanth Education Services)

August 2020 – January 2021