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# Muhsin Wahi-Anwar

Portfolio: <http://personal.psu.edu/mkw5629/Portfolio>

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Objective: Computer Science undergraduate at PSU with practical experience seeking an internship or co-op in 2021.

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## EDUCATION

**The Pennsylvania State University** — *University Park, PA*

Major: Computer Science, B.S. (Engineering)

Minor: Physics

Awards: Penn State Academic Grant, Xoriant Trustee Scholarship, and The President's Freshman Award

**4.0 GPA**

Class of 2023

**Technical Skills** — Python, Java, ES6 JavaScript, HTML/CSS, Bootstrap, Arduino, D.S. Materials Studio

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## EXPERIENCE

**OpenVessel** — *JavaScript Developer*

June 2020 - September 2020

- Worked with a diverse team to construct a MVP for an open source medical-AI start-up affiliated with NittanyAI
- Established a NodeJS environment within application's Flask.py environment using Webpack, React, and NPM
- Developed an interactive 3-D viewer for analyzing machine learning results using VTK.js

**Bellefonte Borough Office** — *Archivist*

January 2020 - April 2020

- Responsible for the scanning and digital organization of historic municipal maps
- Built an automated image-naming application to optimize workflow (see [Page Renamer](#)).

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## INVOLVEMENT

**Demirel Lab** — *Undergraduate Research Assistant*

January 2020 - May 2020

- Assisted a graduate student with the simplification of amino acids into generalized beads using Materials Studio

**Python Learning Organization (PyLO)** — *Team Member*

January 2020 - May 2020

- Learned advanced Python techniques such as multithreading, list comprehension, and ternary operations
- Build multiple projects with a team, like an image editing suite using the Pillow API

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## PROJECTS

**Page Renamer** — *Personal Software Project*

January 2020 - May 2020

Built a desktop app for renaming multiple images based on text within a user-specified area, to optimize workflow archiving maps.

- Tied together multiple libraries in Python including Pillow, PyTesseract, PyMuPDF, and Tkinter
- Built a simple GUI that allows the user to interact directly with the scans and adjust various fields
- Used pixel values to create an algorithm approximating scan corners to better align scanned items

**Music Transposer** — *Regional Science Fair Software Project*

November 2018 - April 2019

Built and presented a web app for interpreting piano audio input into readable sheet music, trained through sample sound bytes.

- Built in Python, AJAX, and JavaScript, using DSP.js, P5JS, TensorflowJS, Keras.js, and their corresponding Python libraries
- Presented at multiple science fairs like Pennsylvania Junior Academy of Science through my high school's Science Club
- Implemented machine learning for tone detection, trainable through pre-processed audio clips and their corresponding notes
- Created a training data proliferator by splitting audio and matching it to notes from a parsed MusicXML sheet music file

**Text-to-Beat** — *Team Software Project*

March 2019 - June 2019

Created a web app through P5.JS in JavaScript that plays a drum beat based on the phonetic syllables of an input sentence.

- Used a text-to-IPA (International Phonetic Alphabet) API to convert input text into their phonetic counterparts
  - Implemented an algorithm to retrieve syllables from words and analyze them to determine what drum sounds to play
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