

Nathaniel Itty

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EDUCATION

Worcester Polytechnic Institute

Candidate for Bachelors of Science in Computer Science and Data Science; GPA: 4.0

Activities: Association for Computing Machinery (Secretary), GoatHacks

Worcester, MA

Aug 2021 – May 2025

EXPERIENCE

Visual Computing Research Intern

Clemson University DPA

- Designed and programmed the Universal Stage, a device designed to measure the light reflected off an object at different lighting and viewing angles.
- Programmed an automatic focus stacking rail for macro photography.
- Created system control code for digital cameras to take images and communicate with a serial device to change viewing direction.

June 2022 – Aug 2022

Charleston, SC

Animal Studies Research Intern

New York University

- Designed advertisement study investigating animals in the media. Coded 268 advertisements for behavior and representation of animals and how it affects how we treat our pets.
- Created a Python program using deep neural networks extract frames from videos as training data and marked it to train the algorithm to track the movement of the fish in video.
- Submitted to the Regeneron Science Talent Search, placed 3rd in the Westchester Science and Engineering Fair, and presented at the Junior Science and Humanities Symposium.

Jan 2019 – June 2021

New York, NY

Student Assistant

Worcester Polytechnic Institute

- Student assistant for introductory programming course with 400+ students.
- Hold two weekly laboratory sessions with 25 students to teach basic project and program design skills.
- Conduct office hours and help students with any questions related to course material.

Aug 2023 – Present

Worcester, MA

PROJECTS

Hospital Kiosk Software | *Java, SQL, CSS*

- Following Agile software methodology, created software application for kiosks at Mass General Brigham Hospital.
- Created pathfinding page, a map editor, multiple integrated service request modules, and a facilities move component to assist the hospital with office and department moves.
- As Lead Front-End Engineer, I gathered software requirements by creating user stories, scenarios and storyboards and designed the map subsystem through the creation of UML use case, class, sequence, and activity diagrams.

Mar 2023 – May 2023

Varis | *Python, C*

- Designed mechanism for extracting information about light reflectance from all lighting and viewing directions on a sample.
- Developed algorithm to capture and automatically focus stack macro lens images.
- Captures detailed information about materials that can be used to create a BRDF.

June 2022 – Aug 2022

Calculator | *JavaScript, HTML, CSS*

- An online calculator that supports basic arithmetic operations and floating point numbers.
- Designed using the flexbox layout model.

July 2023

Spotify Sentiment Analysis | *Python*

- Trained NLP model on dataset of Spotify lyrics to score sentiment of inputted lyrics.
- Classified inputted lyrics based on sentiment and genre.

Nov 2022

TECHNICAL SKILLS

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

Frameworks: JavaFX, React, Node.js, JUnit

Developer Tools: Git, Docker, PyCharm, IntelliJ, Eclipse, Gradle, Jira

Software: Solidworks, Autodesk Inventor, Photoshop, Premiere Pro, Illustrator