James Howe

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Education and Honors

Bucknell University, Lewisburg, PA   **Graduation: May 2023**
Computer Engineering Major & Mathematics Minor, **GPA 3.63/4.0**   Dean's List: 7 Semesters

Relevant Experience

Bucknell University, Senior Capstone Project   Lewisburg, PA
Design Engineer   **August 2022 – Present**
- Created a convolutional neural network for image recognition with Keras and Tensorflow
- Used VMware alongside Docker to construct a microservice architecture on a Linux os
- Presented the finished project at the Hannover-Messe trade fair in Germany

Bucknell University, "MakerE" Makerspace   Lewisburg, PA
Lead Student Programmer   **July 2021 – Present**
- Refactored the Makerspace's RF card access system for its linux based machines
- Diagramed systems to express functionality for new programmers and managers
- Developed both backend and frontend for the Makerspace's RF card access system
- Created and managed API calls for a MySQL database
- Wrote guides for the deployment of the system to other colleges

Bucknell University, CSCI 205: Software Engineering and Design   Lewisburg, PA
Scrum Master on Final project   **May 2021**
- Utilized the Scrum workflow to complete a working video game with a team of 4 in 3 weeks
- Designed user interfaces in Java using a Model View Controller architecture
- Communicated with team members remotely from project start to end

Bucknell University   Lewisburg, PA
Computer Engineering Research   **August 2020 – August 2021**
- Created a database of a variety of common microcontrollers to allow for easy comparison
- Adapt code written for a specific microcontroller to other microcontrollers
- Wrote code that adapts a microcontroller to allow for RFID communication with it

Bucknell University   Lewisburg, PA
Electrical Engineering Class TA   **August 2020 – August 2021**
- Created a program in Python to send data from a microcontroller to an online repository
- Developed a library for the microcontroller that offers a variety of embedded functions
- Provide additional support with the library as new issues arose

Bucknell University   Lewisburg, PA
Physics Lab TA   **September 2020 – May 2021**
- Required a knowledge of a wide range of physics topics to help labs of 15 or more students
- Answer questions regarding the material and helped guide students through problems
- Prepare materials for the labs, such as answers to potential questions from students

Non-Technical experience

Bucknell Theater Department   Lewisburg, PA
Stage Manager   **September 2019 – Present**
- Manages ensembles of actors up to 20 students, organizing schedules and planning rehearsals
- Required to be flexible and learn new skills quickly to fill in for anyone who is unavailable
- Take extensive notes on the production and communicate those with relevant people

Activities
Graphic Design for the Bucknell student Newspaper   **2019-2021**
Performed in Bucknell's Balinese Gamelan ensemble   **2019-2023**

Skills and Courses

Courses: **Diff. Eq** ◊ **Lin. Alg** ◊ **Machine Learning** ◊ **Image Proc.** ◊ **Data Mining** ◊ **Design & Analysis of Algorithms**
Technical Skills:
Docker ◊ Linux ◊ Git ◊ Microsoft Office Suite ◊ Laser Cutting ◊ 3D Printing ◊ Soldering ◊ 3D modeling ◊ Blender
Programming languages:
- **Proficiency:** Python(Numpy, Pandas, Tensorflow, Keras), Java, C++
- **Experience:** ARMv7 Assembly, MATLAB, Javascript, SQL, PHP, mustacheJS, HTML, Haskell, Prolog