# Anthony Campbell

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## EDUCATION

**University of Massachusetts Amherst** Expected Graduation Date: May 2022
*Bachelor's of Science in Computer Science and Statistics* GPA: 3.6/4.0
Relevant Coursework: Artificial Intelligence, Machine Learning, Algorithms for Data Science, Educational Data Mining, Practice and Applications of Data Management, Software Engineering, Introduction to Algorithms, Data Structures and Algorithms, Calculus I-III, Advanced Linear Algebra, Regression Analysis, Statistical Programming, Data Visualizations, Neural Networks, Health Informatics and Data Science

## WORK EXPERIENCE

**Machine Learning Research Assistant** May 2021 - Present
**Mobile Health and Sensors Laboratory** Amherst, MA
- Applied supervised and unsupervised machine learning techniques to classify the unique signal of a pill intake.
- Engineered different features to best categorize a pill intake by first preprocessing accelerometer and gyroscope data, transforming the data, and then extracting relevant features.
- Analyzed data through SQL and data visualization techniques.

**IT Assistant** Nov. 2019 - Mar. 2020
**Auxiliary Enterprises** Amherst, MA
- Provided customer support and troubleshooting via phone.
- Reconciled financial accounts in campus retail systems using Microsoft Excel.
- Implemented changes and repaired campus cash registers using Oracle, CSGOLD, and Symphony.

## PROJECT WORK

**Gene Expression Classification** Oct. 2020 – Oct. 2020
- Applied and compared different ensemble methods such as Random Forest Classifier and AdaBoost to analyze gene expression data to identify tumor cells in children.
- Varied the number of trees, max depth, and learning rates to best classify the tumor cell data into four categories.
- Wrote in Python using NumPy, Matplotlib, and Sklearn.

**Automated Essay Score Predictor** Oct. 2021 – Dec. 2021
- Worked in a group setting to analyze essay data from the Hewlett Foundation and create a variety of different regression models to accurately predict essay scores.
- Designed language-based features to measure sentence complexity, which were used to train regression models.
- Written in Python using nltk, sklearn, numpy.

**Handwritten Digits Neural Network Classification** Nov. 2020 – Nov. 2020
- Used PyTorch to create a neural network and convolutional neural network (CNN) to classify MNist digit images.
- Defined layers and connectivity between layers using different activation functions (ReLU and Softmax).
- Compared NN to CNN using training and validation accuracy score.

**Traffic Sign Classification** Jul. 2020 – Aug. 2020
- Built a convolutional neural network using TensorFlow to recognize and distinguish between different road signs.
- Implemented computer vision by creating hidden layers and using activation functions such as ReLU and Softmax.

## SKILLS

**Programming Languages:** Python, SQL, Java, R, C, JavaScript, LaTeX
**Computer:** Proficient in Microsoft Office.