# Richard Sear

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## Education

**BACHELOR OF SCIENCE | MAY 2021 | THE GEORGE WASHINGTON UNIVERSITY**

· Majoring in Computer Science with Minors in Physics and Mathematics

· University Honors Program | GPA: 3.88

· Student Organizations/Societies: Tau Beta Pi Honor Society, GW ACM, GW Undergraduate Review, GW Robotics

## Work Experience

**UNDERGRADUATE RESEARCH ASSISTANT | GWU PHYSICS DEPARTMENT**              **SEPTEMBER 2018 – PRESENT**

· Working with Dr. Neil Johnson's research team, studying many-body physics of user behavior in online extremist groups

· Using Python modules (Scikit-learn and Microsoft CNTK) to conduct machine learning experiments on image data

· Performing Sequential Latent Dirichlet Allocation unsupervised modeling on online data

· Published work in IEEE Access: https://doi.org/10.1109/ACCESS.2020.2993967

**STUDENT RESEARCHER | JOHNS HOPKINS HLTCOE SCALE PROGRAM**              **MAY 2019 – AUGUST 2019**

· Worked with small research team on topic identification and named entity recognition tasks

· Utilized TensorFlow to analyze effects of reduced- and partially reduced-size training sets

· Iteratively fine-tuned Google's BERT model using a series of language processing tasks

· Presented poster on in-progress findings

**CHIEF TECHNOLOGY OFFICER INTERN | BUCHANAN & EDWARDS, INC.**              **MAY 2018 – AUGUST 2018**

· Trained machine learning model to identify primary emotions with ~15% average error rate (Microsoft CNTK for Python)

· Conducted unsupervised K-means clustering using Python Scikit-learn module

· Delivered Azure webapp built with Flask to analyze uploaded images and videos

## Projects

*See more on my website's "Projects" page*

· Implementation of container manager system in the xv6 operating system              November-December 2020

· Full-stack webapp: registration/advising system developed on a LAMP AWS server              April-May 2019

· Heartrate monitor: data gathering/analysis system using Arduino, C, and various sensors              April-May 2019

## Skills & Abilities

**TECHNICAL SKILLS**

· Software: Visual Studio Code; Azure; AWS; Git; Arduino; Adobe InDesign, Photoshop, Illustrator; Google Analytics; MS Office

· Proficient in Python, Java, C, Bash, PHP, MySQL, HTML, CSS; familiar with MATLAB, LaTeX

**LEADERSHIP/TEAMWORK**

· Layout Manager, GW Undergraduate Review              September 2017-Present

· President, GW Robotics              April 2019-Present

· SEAS Student Ambassador              March 2019-Present