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
- Used Python modules (Scikit-learn and Microsoft CNTK) to conduct machine learning experiments on image data
- Performing Sequential Latent Dirichlet Allocation unsupervised topic modeling on text 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, PHP, MySQL, HTML, CSS; familiar with MATLAB, LaTeX, Bash

LEADERSHIP/TEAMWORK

- Layout Manager, GW Undergraduate Review — September 2017-Present
- President, GW Robotics — April 2019-April 2020