Richard Sear

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Education

BACHELOR OF SCIENCE | MAY 2021 | THE GEORGE WASHINGTON UNIVERSITY

- Majors: Computer Science, Physics
- University Honors Program | GPA: 3.98
- Student Organizations: ACM, GW Undergraduate Review, GW Robotics
- Member of the Tau Beta Pi Honor Society

Work Experience

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)
- Trained experimental secondary model to identify microexpressions on neutral faces
- Conducted unsupervised K-means clustering using the Python Scikit-learn module
- Delivered Azure webapp built with Flask to analyze uploaded images

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

- Working with Dr. Neil Johnson's research team, studying the 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
- Training supervised machine learning models to classify emotions and symbols found in profile images
- Presenting work at the GW Research Days student colloquium (April 2019)

Skills & Abilities

TECHNICAL SKILLS

- Software: Visual Studio Code; Microsoft Office, Azure App Service; Git; Adobe InDesign, Photoshop, Illustrator; Google Analytics
- Proficient in Python, Java, C, PHP, MySQL, HTML, CSS; familiar with MATLAB, LaTeX, JavaScript

RELEVANT COURSEWORK

Data Structures, Discrete Mathematics, Computer Architecture, Databases, Systems Programming, Continuous Algorithms

LEADERSHIP/TEAMWORK

- Layout Manager, GW Undergraduate Review — September 2017-Present
- Vice President, GW Robotics — April 2018-Present

Projects

See more on my website's "Projects" page

- 2019 SEAS Hackathon project: "Friendly FOIA" – a tool to automate FOIA requests for journalists — February 2019
- Databases Project: online marketplace with user accounts and MySQL database integration — February 2019
- Architecture Project: document search tool in C; uses the tf-idf search algorithm and a hash structure — December 2018
- Software Engineering Project: "Alien Attack" – an arcade-style game in Java — December 2018