

# Richard Sear

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(414) 491-6731 | [searri.github.io](https://searri.github.io) | 3283 N. Knoll Ter, Milwaukee, WI 53222 | [searri98@gmail.com](mailto:searri98@gmail.com)

## Education

BACHELOR OF SCIENCE | MAY 2021 | THE GEORGE WASHINGTON UNIVERSITY

- Major 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 DYNAMIC ONLINE NETWORKS LAB SEPTEMBER 2018 – PRESENT

- Working with Dr. Neil Johnson's research team, studying many-body physics of user behavior in online anti-vax groups
- Performing Sequential Latent Dirichlet Allocation unsupervised topic modeling on text data
- Developed open-source Python package for data bookkeeping and ML experiments: <https://github.com/gwdonlab/ogm>
- Published work in IEEE Access: <https://doi.org/10.1109/ACCESS.2020.2993967>

INDEPENDENT CONTRACTOR | CLUSTRX LLC MAY 2020 – AUGUST 2020

- Contributed to Jigsaw project applying automation to identifying "flavors" and intensity of online hate
- Performed supervised ensemble ML experiments to classify hate "flavors"
- Integrated Google's Perspective models with traditional methods to find effective ways of scoring hate intensity

STUDENT RESEARCHER | JOHNS HOPKINS HLT COE SCALE PROGRAM MAY 2019 – AUGUST 2019

- Utilized TensorFlow to analyze effects of reduced-size training sets on NER and topic identification tasks
- Iteratively fine-tuned Google's BERT model using a series of language processing tasks

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

## Projects

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

- AWS/Arduino IoT board game player March-April 2020
- 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

## Skills & Abilities

### TECHNICAL SKILLS

- Software: Visual Studio Code; Jekyll; AWS; Git; Arduino; Azure; Adobe InDesign; MS Office
- Proficient in Python, Java, C; experienced with PHP, MySQL, HTML, CSS; familiar with R, MATLAB, LaTeX, Bash

### LEADERSHIP/TEAMWORK

- Learning Assistant, Intro to Engineering for Undeclared Majors (APSC 1001) August 2020-Present
- Layout Manager, GW Undergraduate Review September 2017-Present
- President, GW Robotics April 2019-April 2020