Richard Sear

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Selected Publications

CHECK OUT MY WEBSITE'S "PUBLICATIONS" PAGE!

- "Adaptive link dynamics drive online hate networks and their mainstream influence" Apr 2024
- "Offline events and online hate" Jan 2023
- "Connectivity between Russian information sources and extremist communities across social media platforms" Jun 2022
- "Dynamic Latent Dirichlet Allocation Tracks Evolution of Online Hate Topics" Feb 2022

Work Experience

SENIOR PROGRAMMER & DATA ADMIN | RESEARCHER | GWU DYNAMIC ONLINE NETWORKS LAB **SEP 2018 – PRESENT**

- Working with Dr. Neil Johnson's research team, studying many-body physics in online movements
- Performed ML NLP analysis on text data, including dynamic topic modeling and supervised text classification
- Developed and maintain a social media database of more than 220 million posts across 11 platforms
- Created and maintain extensive framework of code for constructing hyperlink networks across 33 platforms
- Contributed to 12 peer-reviewed academic publications

INDEPENDENT CONTRACTOR | CLUSTRX LLC **MAY 2020 – APR 2023**

- Performed supervised ensemble ML experiments for hate classification and analysis (based on BERT and RoBERTa models)
- Designed robust software pipelines for capturing data from social media platforms
- Presented work to Google Jigsaw representatives and ClustrX partners

STUDENT RESEARCHER | JOHNS HOPKINS HLTCOE SCALE PROGRAM **MAY 2019 – AUG 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 – AUG 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 of faces

Education

BACHELOR OF SCIENCE | MAY 2021 | THE GEORGE WASHINGTON UNIVERSITY

- Major in Computer Science with Minors in Physics and Mathematics
- University Honors Program completion | GPA: 3.90 | Summa Cum Laude | Tau Beta Pi Honor Society

Skills & Abilities

CHECK OUT MY WEBSITE'S "CLASS PROJECTS" PAGE!

TECHNICAL SKILLS

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

LEADERSHIP/TEAMWORK

- Project Manager, DON Lab DATS Masters student projects Mar 2022-Feb 2023
- Learning Assistant, Intro to Engineering for Undeclared Majors (APSC 1001) Aug-Dec 2020
- Layout Manager, GW Undergraduate Review Sep 2017-May 2021