

# Sander Schulhoff

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## EDUCATION

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**University of Maryland, College Park**

*Bachelor of Science in Computer Science*

Fall 2020 - Present

*GPA: 3.753*

## RESEARCH

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**Stabilizing Hostilities through Arbitration and Diplomatic Engagement**

Spring 2022 - Present

*University of Maryland, Professor Jordan Boyd-Graber*

- Working on a DARPA funded multi-university project with the goal of building bots to play the boardgame [Diplomacy](#) and talk to players.
- Currently building simple bots with hardcoded policies.

**Andreou Lab Internship**

Summer 2021 - Fall 2021

*Johns Hopkins University, Professor Andreas G. Andreou*

- Built [data pipelines](#) to record data from Arduino chips and RealSense cameras and send it to Microsoft [\Psi](#)
- Implemented a CNN+GRU model from scratch with Pytorch for video classification on event camera data

**CLIP Undergraduate Research**

Fall 2020 – Summer 2021

*University of Maryland, Professor Jordan Boyd-Graber*

*College Park, MD*

- Worked on [Diplomacy](#) boardgame NLP project developing a Discord bot used to collect player data and display machine learning predictions
- Bot passed live Alpha and Beta tests with paid participants
- Developed a [simple full-stack website](#) to collect data for a NLP analogy project
- Built an [annotation workflow](#) for the UMD [QANTA](#) project

**Neurodata Lab Internship**

Summer 2019

*Johns Hopkins University, Professor Joshua Vogelstein*

*Baltimore, MD*

- Wrote unit tests for a project converting clustering algorithm libraries written in R to Python
- Wrote scripts to create presentational graphs of algorithm performance on data sets like Iris
- Performed investigations on different clustering metrics where ground truth is known based on the Zachary's Karate Club social network graph dataset

## WORK EXPERIENCE

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**Farama Foundation** | *Jekyll, Liquid, HTML, CSS*

Spring 2022 – Present

- Built and refactored [fantasia Jekyll theme](#) from [PettingZoo website](#)
- Created new [Gym website](#): organized documentation PRs and wrote scripts to generate pages, menus, and gifs
- Currently redoing [PettingZoo website](#)

**Teacher at Friends School of Baltimore** | *HTML, CSS*

Fall 2021 – Present

- Co-teach an introductory web development/design course

**Axidraw Control Software** | *HTML, CSS, Javascript, Python*

Spring 2020

- Hired to build a Mac application for automating the process of writing physical notes
- Wrote frontend (Bootstrap) and backend (Python+pyaxidraw) to allow users to send tasks to be written by an [Axidraw](#)

## SELECTED PROJECTS

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**Websites** | *HTML, CSS, Javascript, Bootstrap, Jekyll, MaterializeCSS*

2021

- Built my [personal website](#) and [Denis Peskov's website](#) from scratch with Jekyll and Bootstrap
- Built [Teacher Recommender System Website](#) from scratch with MaterializeCSS
- Working on [candidate Augustin Saah's website](#) (adapted from a Jekyll format) and [PsiWars site](#) (Jekyll+Bootstrap) from scratch

**Teacher Recommender System** | *Google Apps Scripts, HTML, MaterializeCSS*

Spring 2019 – Present

- Developed suite of scripts to automate the process of matching students with teachers who will write their college recommendation letters
- College counselors control the process from a menu with functions allowing them to create forms, send them, and run a simple scoring algorithm that generates assignments
- Students and teachers are served autogenerated Google Forms to collect their data
- Sold Alpha version and released Beta version as an official Google Sheet Add-On

**Heart Heist App** | *Swift, Objective-C*

Summer 2018

- Built a top down shooter app using XCode and deployed it on the Apple App Store
- Used Gravit Designer and Garage Band to make art and music

## OPEN SOURCE CONTRIBUTIONS

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**MineRL (Minecraft Reinforcement Learning Library)**: Committed 1000+ lines of documentation, bug fixes, and feature additions, including a [tutorial](#) on custom environment building. Also [ported](#) (from Project Malmo) the ability to send chat messages in MineRL and wrote a [tutorial page](#) for it. This functionality allows significant speed ups for training agents.

**AI Gym (Reinforcement Learning Library)**: Thoroughly refactored/built [new website](#). Helped organize various documentation additions.

## TECHNICAL SKILLS

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**Frequent Languages**: Python, Google Apps Script, Java, Javascript, HTML, CSS, C

**Frequent Developer Tools**: Visual Studio Code, Git, Adobe XD, Photoshop, Google Drive Scripting Environment,

**Natural Languages**: English, Spanish

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**Infrequent Languages and Tools**: PHP, MySQL, Bash, Objective-C, C++, C#, Eclipse, IntelliJ IDEA, Pycharm, MAMP, SQLPro, PHPMyAdmin, Platform IO, Visual Studio, Atom, Jupyter Notebook, Google Colab, XCode, Unity

## ACHIEVEMENTS

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**Won UMBC Hackathon 2020** (Cipher-Tech-Solutions challenge) with [ForeTrackR](#), a novel application of Blockchain to Chain of Custody in digital forensics

**Won True Bit design competition** (UMBC Hackathon)

**Paper on semantic segmentation accepted into Smoky Mountain Data Challenge** ([paper](#))