Abduarraheem Elfandi

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EDUCATION

University of Oregon   Eugene, OR
Bachelor of Science in Computer & Information Science   *Sept. 2018 – June 2022*

University of Oregon   Eugene, OR
Master of Science in Computer Science   *Sept. 2022 – March 2024*
- Awards: UO CS Phillip Seeley Graduate Fellowship

EXPERIENCE

Graduate Research Assistant   Sept 2022 – March 2024
University of Oregon   *Eugene, OR*
- Part of Oregon Network and Research Group (ONRG), worked on democratizing the use of machine learning in networking and maintaining data privacy among collaborators by creating SWAN A Framework to Bootstrap Trust in Network Data Science.

PROJECTS

SWAN | *Python, Flask, JavaScript, Nginx, MongoDB, Docker*   Sept 2022 – March 2024
- A framework that operators and researchers can use a pipeline in which different enclaves can share metadata, and benefit from datasets that exist outside of their own enclaves while ensuring data privacy. Additionally, it enables reasoning with decisions made by the trained black-box model using hybrid explainability techniques that combine global (i.e., insights about overall working on the model) and local (i.e., insights into specific predictions) explainability methods.

Brevet Time Calculator | *Python, PHP, Docker, JavaScript*   Oct 2021 – Nov 2021
- Designed web application using Flask micro web framework for the server side and jQuery and AJAX.
- Stored inputted data in database using MongoDB and displayed when requested.
- Built a REST API which exposes the resource, which can return all open and close times in the database or open and close time individually and can be queried to display the top k open and close times specifically.
- Designed a consumer program using PHP to use the service that has been exposed.
- Used Docker-Compose to define and run multi-container applications.

DDoS-Detect in Linux Subsystems | *C++*   Feb 2021 – May 2021
- Leveraged a Pre-existing PCAP extractor (STEELISI MIMIC) and then uses its output to generate traffic flow from multiple clients to multiple server connections on two separate machines in an isolated (Host-Only) network.
- Created a closed network traffic generator that will serve as a sandbox to test DDoS attacks and DDoS detection solutions on.
- Worked in a team environment consisting of two other people, where I organized meetings, entrusted tasks, helped debug teammates code.

Rap Analysis | *Python, JavaScript, Flask, HTML, CSS*   Oct 2020 – Nov 2020
- Worked in a team environment consisting of two other people, where I organized meetings, entrusted tasks, helped debug teammates code.
- Built a Rhyme Detection analysis framework and webservice for Hip-Hop/Rap Lyrics.
- Designed web application using Flask micro web framework for the server side and jQuery and AJAX.
- Implemented Spotify integration where users can log in with their Spotify account and allow playlists and recently listened songs to be analyzed.
- Used LyricsGenius python library which is a library that runs on a combination of the official Genius API and web-scraping tools to collect lyrics for over 100 artists.
- Designed most of the website and layout, and also deployed on Heroku.

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, x86-64/y86-64, 65c816 assembly, HTML/CSS, CUDA, C#, R
Frameworks: Unity, React, Flask
Developer Tools: Git, Docker, AWS, VS Code, Visual Studio, PyCharm, MongoDB, Ngnix