Hamza Shaikh
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Education: Purdue University – West Lafayette - Bachelor of Science in Computer Science - May 2023 - GPA: 3.67
Concentrations: Machine Intelligence, Security

Skills: Java, Python, C, JavaScript, Typescript, MongoDB, NodeJS, React, Deno, Docker, Google Firebase Auth & Storage, Splunk, GCP VMs, NGINX, AWS DynamoDB, PyTorch, HuggingFace

Work Experience:

Invici **West Lafayette, IN**
Software Engineer (Part Time) **March 2023 - Present**

- Developed backend RESTful APIs to handle invoice information extraction queries.
- Utilized HuggingFace models, including detection transformer (DeTr) networks, visual processing models, optical character recognition (OCR), large language models (LLMs) to create an engine to process invoice data extraction and missing-field-creation based on processed information.
- Built and deployed frontend Shopify app interface in ReactJs, deployed on fly.io.
- Developed proof of concept software which secured $10,000 in funding
- Co-founded the company to sell the packaged tool.

Cisco Systems **RTP, NC**
Software Engineering Intern - Vulnerability Management **May - August 2022**

- Developed python code that synchronized ratings efficiently for millions of vulnerabilities between Cisco and Kenna, an acquired company whose engineering team I had weekly meetings with, then deployed said code as a cronjob on a production server.
- Developed and deployed a feature allowing security analysts to fetch information about specified threat groups or vulnerabilities. The feature called APIs from Recorded Future about the query and manipulated the resulting data to compile a pandas dataframe with recorded instances and documents referencing relevant threat actors in cyberspace, pushing the resulting dataframe to splunk for further digestion.

Cisco Systems **RTP, NC**
Software Engineering Intern - Threat Intelligence **May - July 2021**

- Used python libraries to parse through threat intelligence and analysis cases for indicators of concern and created a workflow tool to allow such indicators to be shared with a malware information-sharing community.
- Conducted technical analysis of cases for machines requesting blocked domains, analyzing such traffic using splunk queries, looking through logs, and found context surrounding such cases to determine if machines were infected or edited with malicious software or not.
- Analyzed the process of such technical analysis steps and proposed a redesign/restructure of relevant proprietary tools to make analysis more efficient, using automation to reduce redundant tasks with precompiled information.

WootCloud Cybersecurity **San Jose, CA**
Data Science Intern **June 2020 - March 2021**

- Developed tools automating the collection and identification of wireless devices made by different manufacturers registered in the FCC via selenium web scraping. Stored such data in MongoDB servers for future cross-reference searches and classification.
- Created data sets for the training of Machine Learning models to classify devices into different categories of electronic devices using metadata and photo identification and retrained ML models with Tensorflow using such data sets.

Personal Projects

LogicNerve

- Lead a team of multiple students in designing and producing an online platform where developers can build and deploy custom medical IoT devices on a HIPAA compliant platform .
- Utilizing Docker containerization, microservice architecture, NGINX reverse proxy, and MongoDB storage.
- Constructed multiple NodeJS microservice backends with REST APIs utilized by a React frontend, along with automated tests for features.
- Using Firebase, GCP, and AWS to deploy features, store data, and handle account authentication.

Pose Estimation Tracking Therapy

- Created unity scripts to allow user input for transformation of objects via pose estimation from webcam feed.
- Connected firebase firestore to transfer detected physical positions to unity and wrote code to construct a baseline to accurately portray unity 3d coordinates from 2d camera coordinates and estimated distance.