Sebastian Grammas

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Relevant Experience

Interned at ALQIMI Technology Solutions in Rockville, Maryland from May-August, 2024, 2025

- o Delivered production-ready chatbot features that were adopted by the company for client-facing use, transforming static documents and images into dynamic, interactive insights.
- o Designed ALQIMI Assistant, conversational AI platform that enables clients to interact with documents through natural language.
- o Extended the assistant's functionality by implementing image processing capabilities, including license plate recognition, OCR for text extraction, and analog/digital clock detection, integrating computer vision with conversational AI.
- o Built a Visa Demand Forecasting model using ARIMA, SARIMA, Prophet, and LSTM to predict the U.S. Visa issuance trends, integrating macroeconomic indicators such as unemployment rates to improve forecasting accuracy.
- o Designed and implemented web scraping solutions to extract PDFs and critical information, integrating data with Elasticsearch for optimized search functionality.
- o Enhanced and optimized Vega-based dashboards, refining query logic for improved visualization, performance, and anomaly detection accuracy.
- o Developed a formula to prioritize anomalies by relevance and frequency, conducting experiments on bucket lengths and historical comparisons to refine scoring models.
- o Engaged in open-source software development projects at RPI including Easy Artistry and CareerMatch AI (current project lead).
- o Completed Modern Binary Exploitation course at RPI utilizing the RET2 WarGames software
- o Placed in top 500 of National Cyber League
- o Member of ISC2, Certified in Cybersecurity (CC)

Relevant Skills

- o **Conversational AI & Computer Vision:** Developed and deployed client-facing chatbot features combining natural language processing, semantic search, OCR, and object detection for intelligent document and image analysis.
- o **Binary Exploitation:** Utilizing the RET2 WarGames software, gaining hands-on experience in advanced binary exploitation techniques, including stack-based buffer overflows, return-oriented programming (ROP), bypassing ASLR and NX protections, reverse engineering, and analyzing vulnerabilities in real-world binaries
- o **Web Scraping**: Experienced in writing custom scripts to extract and process data from websites, ensuring efficient and accurate data collection for analysis.
- o **Data Engineering**: Proficient in designing and deploying NiFi pipelines, automating data workflows, and integrating data with Elasticsearch for scalable search solutions.
- o **Developed expertise in network security and defense mechanisms**.
- o Problem Solving and Critical Thinking
- o Strong Mathematical Foundation
- o Programming Languages: Python, C++, C, JavaScript, Assembly.
- o Demonstrated problem-solving skills through algorithm development and binary exploitation.

Education

Rensselaer Polytechnic Institute, Troy, NY. Expected graduation: May 2026. GPA 3.2

- o Major: BS Computer Science with a concentration in Systems and Software; Minor: Economics
- o Scholarships: Rensselaer Recognition Scholarship and Rensselaer Leadership Scholarship
- o Activities: NCAA Soccer; Pi Kappa Alpha Fraternity Recruitment Officer