

A Web Application for Automated Malware Analysis Reports Generation

Project Description: The goal of this project is to build a web application that automatically generates malware analysis reports from malware binaries. The web application will interact with our core research component that leverages large language models for this task. During this internship, the intern will interact with as graph databases, malware samples, malware samples, and large language models. The intern will develop a backend that stores and analyzes live malware samples. These kinds of applications come with various challenges such as designing security layers to prevent any unsafe behavior. In addition, he/she will work on production-level application with established CI/CD pipelines to make software engineering skills into practice.

Project Type: Research and Engineering

Internship Batch:

- **Batch 1:** May 12 to July 12, suitable for Education City students, i.e., CMUQ, TAMUQ and HBKU students
- **Batch 2:** May 26 to July 25, suitable for QU university students

Duties/Activities:

- Designing a web UI for a command line tool that generates malware reports from given malware samples.
- Implement the necessary security layers to handle malware storage and analysis.
- Building the web UI using one of the frontend frameworks (React, Vue, Flutter, etc.).
- Building a backend a simple API that interacts with our core tool.

Required Skills:

- Familiarity with one of the frontend frameworks (React, Vue, Flutter, etc.).
- Familiarity with containers, virtual machines, and sandboxing.
- Experience with Neo4j, Flask, and malware analysis is a plus.

Preferred Intern Academic Level: Senior

Learning Opportunities:

- Implementing a system design for a production-level web application that has multiple heavy load tasks.
- Learning how to interact with Continuous Integration and Continuous Deployment (CI/CD) pipeline.
- Learning git for production.

Expected Team Size: 2

Mentors

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