Milestone 4

**Briefly describe the artifact. What is it? When was it created?**

This artifact is a web based interactive dashboard that is designed to assist a non profit organization “Grazioso Salvare” in identifying suitable dogs for various types of search and rescue missions. The application itself is built using Python with the Dash framework for our front-end. Plotly for data visualization, and MongoDB for the back end database, that gets accessed by a custom Python class that handles all the CRUD functionality. The original version was created in the CS-340 course in client/server development.

**Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?**

I chose this artifact for my ePortfolio as it represents my skills in full-stack application development. The AnimalShelter Python class shows my ability to create a modular and reusable data access layer that interfaces with a NoSQL database. The dashboard itself is built with the Dash library and showcases my ability in creating interactive and responsive user interfaces. It uses data tables, dropdown menus, and dynamic charts to present complex information. Lastly the Charts and Map highlights my ability to transform raw data into visual results that can be seen when selecting results and filters. The artifact was significantly improved by implementing newer libraries, and adding additional missions, while also clarifying the UI, which makes it easier to read.

**Did you meet the course outcomes you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?**

Yes the enhancements made to this artifact meet the course outcomes that I outlined in Module One.

**Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?**

The process of getting the original project migrated over to a local machine was very challenging. There was a lot of moving parts that needed to be installed and integrated into my local machine in order to run the dashboard to begin with. After I got it working locally, I began my research into Search and Rescue Missions to implement into the options to choose from. I also did not like the way the Pie chart functioned, so I replaced it with something that’s easier to follow along with, that provides hard numbers for the users to use.