

**MICHIGAN STATE**  

---

**UNIVERSITY**

# Alpha Presentation

## Synthetic Image Generation via Random Noise

### The Capstone Experience

#### Team CSAA Insurance

Matthew Baxter

AJ Bensman

William Long

Zongyuan Li

John Park

Joe Romain

Department of Computer Science and Engineering

Michigan State University

Fall 2022



*From Students...  
...to Professionals*

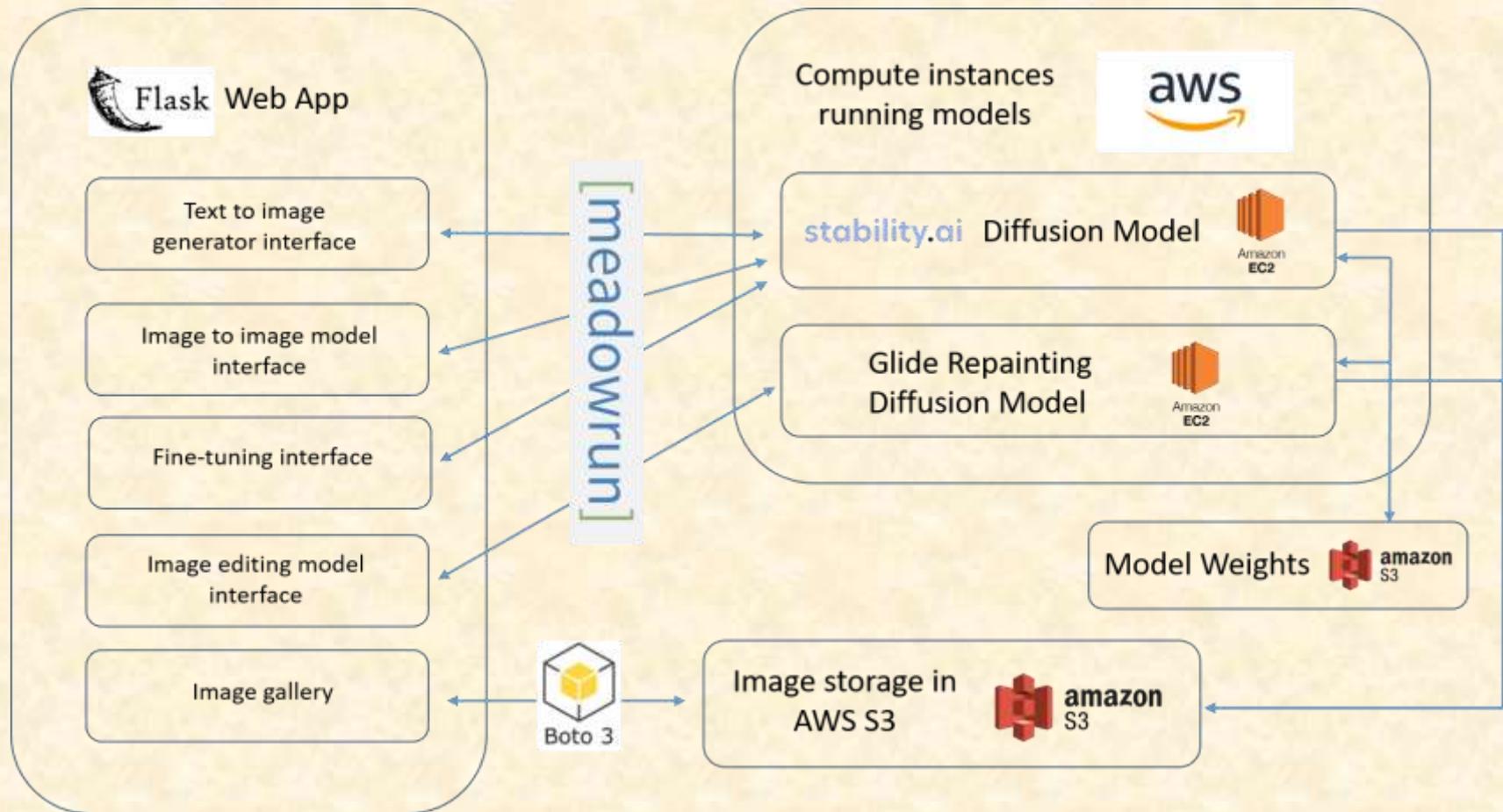
# Project Overview

---

- Insurance industry is evolving to require mass amounts of data
- Problem:
  - Lack of access to image datasets
  - Privacy concerns with image data
- Solution:
  - Utilize AI models to automate dataset generation
  - Provide users ability to fine tune models to fit their specific purposes



# System Architecture

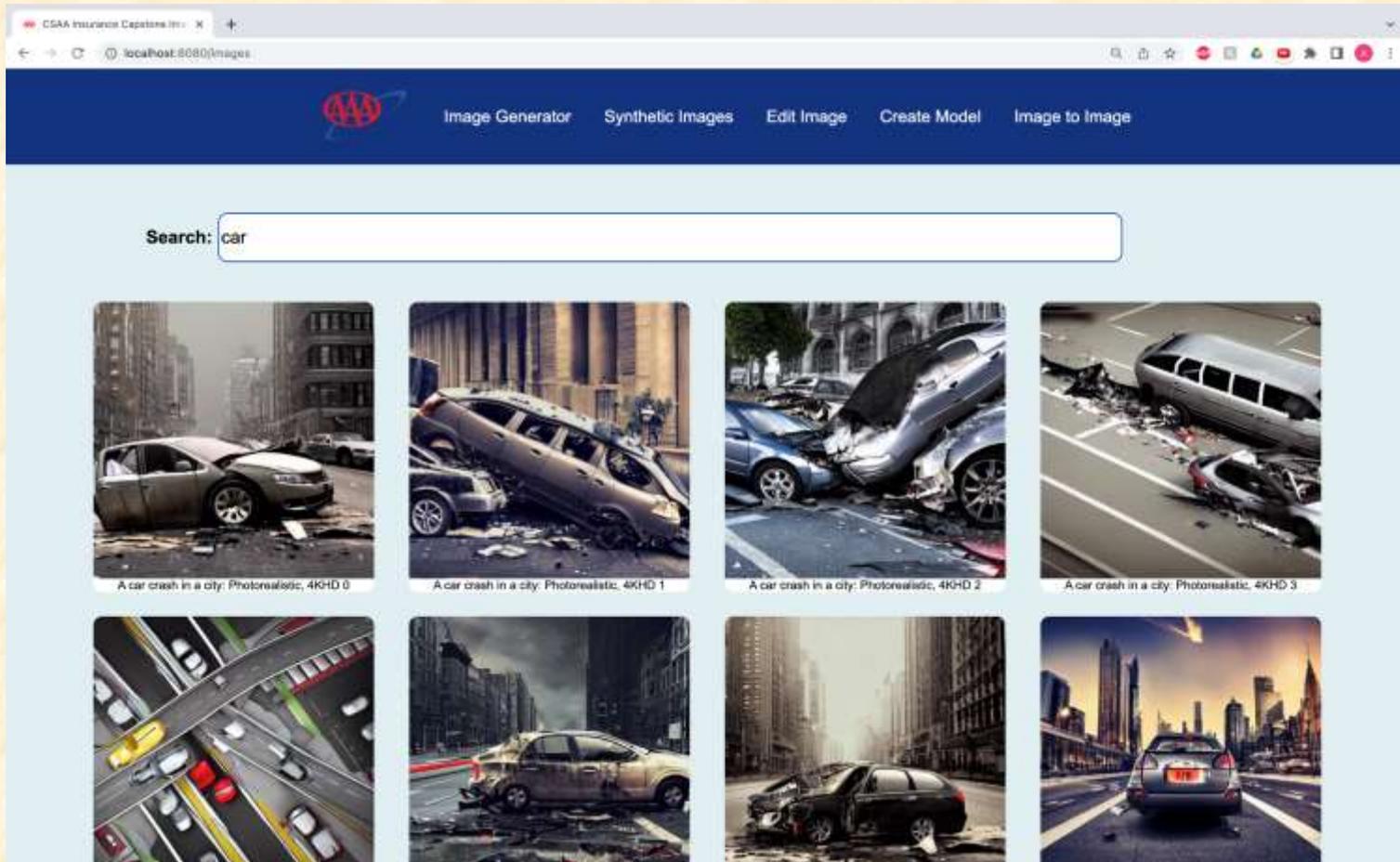


# Image Generation

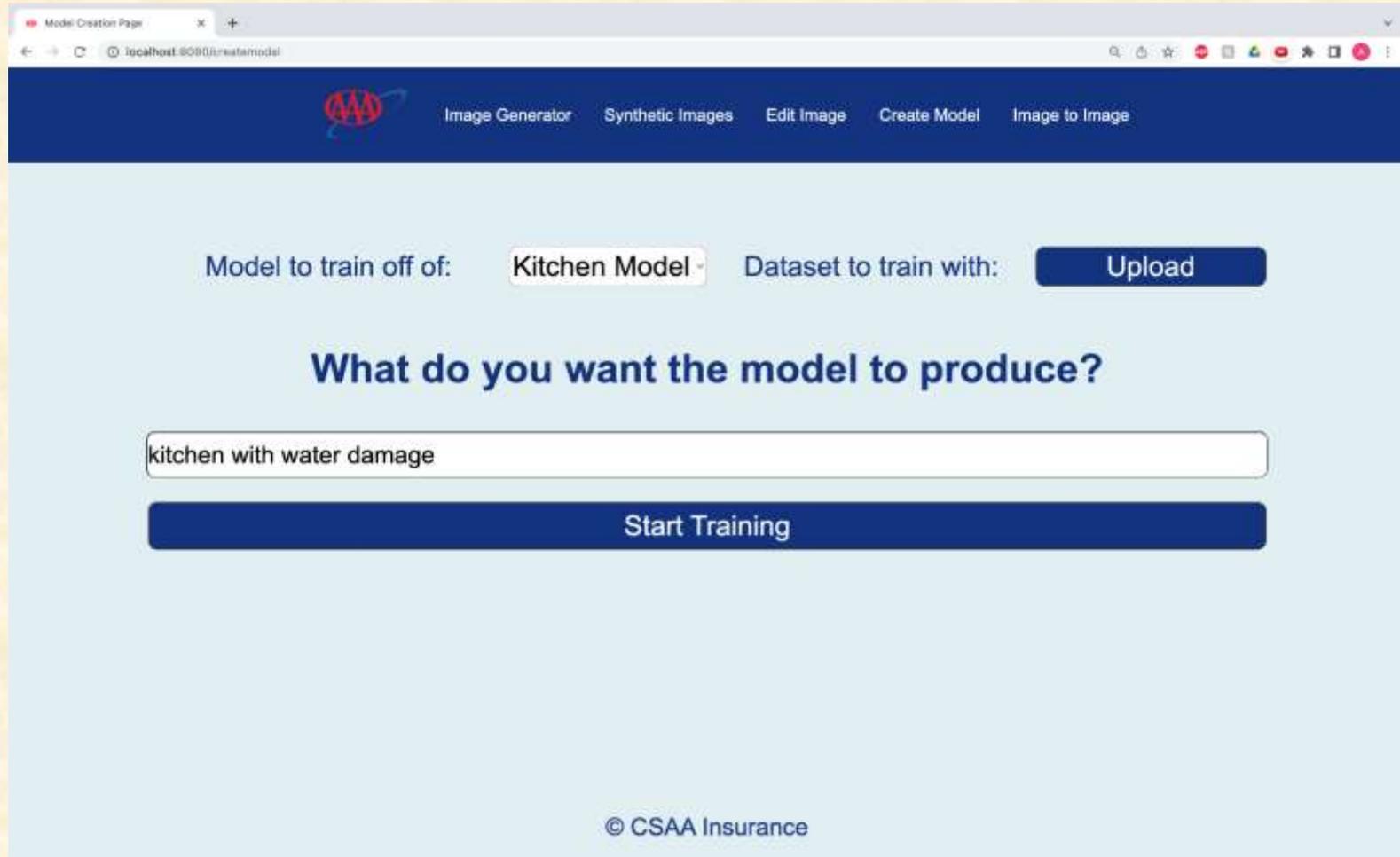


The screenshot shows a web browser window with the URL `localhost:8080/generator`. The page features a dark blue header with a logo and navigation links: "Image Generator", "Synthetic Images", "Edit Image", "Create Model", and "Image to Image". Below the header, there are input fields for "Model:" (set to "Car Model"), "Number of images:" (set to "3"), and "Description:" (set to "chevy impala"). A blue "Generate" button and a black "Download All" button are positioned below the input fields. At the bottom, three generated images of classic cars are displayed: a red coupe, a white coupe, and a teal and orange sedan.

# Search & Edit Synthetic Images



# Creating & Training Models

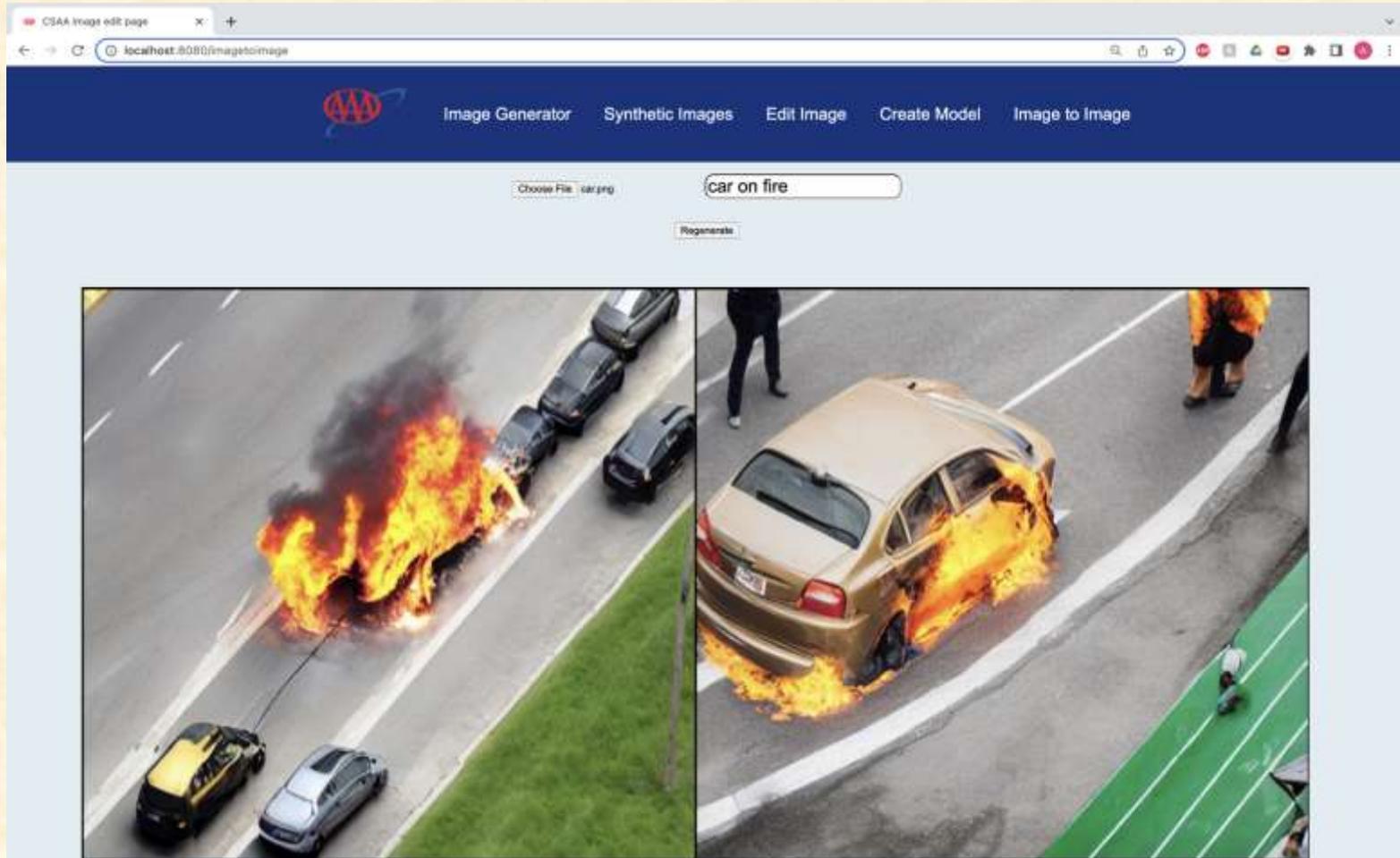


The screenshot shows a web browser window with the address bar displaying "localhost:8080/createmodel". The page has a dark blue header with a logo and navigation links: "Image Generator", "Synthetic Images", "Edit Image", "Create Model", and "Image to Image". The main content area is light blue and contains the following elements:

- "Model to train off of:" followed by a dropdown menu showing "Kitchen Model".
- "Dataset to train with:" followed by a dark blue "Upload" button.
- A large heading: "What do you want the model to produce?"
- A text input field containing the text "kitchen with water damage".
- A large dark blue "Start Training" button.
- A footer at the bottom center: "© CSAA Insurance".



# Image to Image Generation



# What's left to do?

---

- Create and store new model weights
- Allow users to select and regenerate a portion of an image
- Integrate glide model onto AWS and the website
- Create more quality of life features for webpage

# Questions?

---

?

?

?

?

?

?

?

?

?







