Beta Presentation
Synthetic Image Generation via Random Noise
The Capstone Experience
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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

**Flask Web App**
- Text to image generator interface
- Image to image model interface
- Image editing model interface
- Image gallery
- Fine-tuning interface

**Communication Libraries**
- Python
- meadowrun

**Boto3 / AWS SDK**
- Paramiko

**Hosting**
- EC2 Instances
- Database
  - Datasets
  - Model Checkpoints
- GPU Service
  - Lambda
  - with Conda
- Elastic Block Store
  - stability.ai
    - Diffusion Model
  - runway
    - Inpainting Diffusion Model
  - Amazon Lightsail
Text-to-Image Generation Page

![Image Generation Page](image-url)
Image-to-Image Generation Page

**Upload Drawing:**

**Model:**
- general

**Number of images:**
- 3

**Description:** car on fire

**Generate**

**Show Logs**
Image Gallery Page
Image Editing Page
What’s left to do?

• Features
  ▪ None

• Stretch Goals
  ▪ None

• Other Tasks
  ▪ Clean up code
  ▪ Edge case testing
  ▪ Preparing project for transfer
  ▪ UI tweaks
Questions?