

Marmik Chaudhari

814-769-6903 | mbc6219@psu.edu | LinkedIn | Github

EDUCATION

The Pennsylvania State University

Bachelor of Science in Computer Science

University Park, PA

Aug. 2023 – May 2027

WORK EXPERIENCE

Machine Learning Developer/Intern

SmartOCR

October 2023 – Present

State College, PA

- Implemented Visual Transformers network for an OCR application to enhance transcript automation process along with robust data pre-processing pipeline, fine-tuning on the dataset and confidence level estimation to minimize errors & hallucinations
- Utilized Litestar to build fast & performant APIs for backend enabling seamless integration of ML models into production servers and ensuring efficient data flow and scalability of the models.
- Collaborated within a 5-member team actively leveraging agile project development, involving regular code reviews and contributing to the optimization of team workflows.

Computer Vision Developer

RoboX

August 2023 – Present

University Park, PA

- Collaborating with a dynamic team of developers to implement various algorithms for perception, object detection, object tracking, kinematic modeling & auto-aim for a robot
- Actively engaging with the Mechanical team to understand robot's various hardware components & collaborating on successful integration of the hardware with vision algorithms

Machine Learning Research Assistant

Allegheny College

June 2022 – August 2022

Remote Work

- Developed a text generation model using Python & NLP to automatically generate coherent and contextually relevant sentences from a corpus of text data
- Utilized SpaCy and NLTK for robust data pre-processing, tokenization & lemmatization
- Trained the model using Recurrent Neural Networks leveraging TensorFlow
- Utilized Markov Chains & RegEx to enhance data quality by removing noise and improve sentence coherence

Back-end Developer

Stem.E

September 2022 – November 2022

Remote work

- Increased website's interactivity using Python for server-side scripting
- Utilized the Flask web framework for handling http requests & integrating external APIs enhancing website usability
- Developed and maintained automated test using PyTest to validate back-end functionalities

PROJECTS

Art2Music | Pytorch, Keras, Numpy, Python

January 2024

- Utilized Pytorch, AudioGen & LLaVa models to build an image to music model that captures the vibes of the image and integrating the vision and music models
- Developed an image captioning model using LLaVa and Keras to get input for the music model
- Deployed the project on vercel and integrated it with a fast api backend

Cookipedia | Python, PyTorch, Tensorflow, Keras, OpenCV, Numpy, Flask, HTML, CSS, JavaScript

October 2023

- Utilized PyTorch & OpenCV to create a model that performs Panoptic image segmentation, segmenting the images into individual ingredients & InceptionV3 to identify and understand individual ingredients from images.
- Implemented a personalized recommendation system by fine-tuning GPT to generate dish suggestions from recognized ingredients, taking into account the user's preferred cuisine.
- Integrated the frontend of the website with the Machine Learning model using Flask

TECHNICAL SKILLS

Languages: Python, JavaScript, HTML/CSS

Frameworks: PyTorch, Flask, Django, Git

Libraries: Keras, OpenCV, NumPy, TensorFlow, SpaCy, NLTK, Matplotlib