Eesha Shetty

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Master of Science in Artificial Intelligence and Innovation, GPA: 3.96/4.0 — May 2024
Selected Coursework: Introduction to Machine Learning, Introduction to Deep Learning, Machine Learning with Large Datasets, Machine Learning in Production

Vellore Institute of Technology — Vellore, India
Bachelor of Technology in Computer Science and Engineering | GPA: 8.71/10 — August 2022
Selected Coursework: Data Structures and Algorithms, Artificial Intelligence, Image Processing

SKILLS

Technical Skills: Machine Learning, Deep Learning and Neural Networks, Computer Vision, Software Engineering
Programming Skills: Python, Java, Tensorflow, PyTorch, PySpark, NodeJS, C/C++, ReactJS, AWS, Git, Docker
Languages: English (Fluent/Native), Hindi (Fluent/Native)

PROFESSIONAL EXPERIENCE

Cassian Solutions — Pittsburgh, PA | Remote
Software + ML Engineer — May 2023 - Present
- Developed and deployed machine learning models to help personalize customer experiences on a specialty pharmacy platform
- Built a model with scikit-learn to determine ideal time for sending prescription refill notifications to customers based on refill history
- Set up training in AWS SageMaker and deployed machine learning model in the DevOps pipeline for quick inference
- Contributed to software development by engineering a new library for message sending logic, resulting in streamlined processes and improved code modularity within software development efforts

Amazon — Pune, India | Remote
Software Development Engineering Intern — January 2022 - June 2022
- Devised an event notification system with Amazon SQS and Lambda for seamless transition of customers to a new service
- Designed and implemented a Data Warehouse solution for the new service, leveraging AWS Redshift and establishing a pipeline for efficient data storage and processing
- Empowered the service to handle substantial amounts of data on Redshift, enabling data analytics and other resource-intensive tasks requiring extensive data utilization

Drive Analytics — Chennai, India | Remote
Computer Vision Intern — September 2021 - December 2021
- Trained Baseball Player Classification Models utilizing Body Pose Detection, incorporating advanced techniques such as Intersection over Union, YOLO Object Detection, and Tracking.
- Utilized TensorFlow for model training and deployed the models into production, achieving a significant 5% increase in accuracy compared to the existing models through iterative improvements and fine-tuning.
- Conducted in-depth research on reconstructing 3D faces using Generative Adversarial Networks (GANs).

Amazon — Pune, India | Remote
Software Development Engineering Intern — May 2021 - July 2021
- Architected a comprehensive AWS Infrastructure, leveraging technologies such as CloudFormation Templates, SQS, and Lambda.
- Designed and executed an automated Data Subject Access Request (DSAR) process, significantly reducing processing time from 30 days to almost instantaneously

PROJECTS

Learning Mutational Signatures | Independent Study Project, with Xu Lab and Lehmann Lab — February 2023 - Present
- Researching methods for extracting mutational signatures in cancerous cells using matrix factorization methods
- Utilized data from the Pan-Cancer Analysis of Whole Genomes (PCAWG) project
- Ongoing research, currently working on fitting different collaborative filtering models on the given dataset

Referring Audio Segmentation | Academic Project, Deep Learning [tinyurl.com/idl-report] — March 2023 - March 2023
- Collaborated with a team of peers to address the challenge of detecting and localizing specific sound events within an audio clip
- Utilized 2D mel-spectrograms and image segmentation techniques to achieve accurate detection and localization of sound events
- Built an annotated dataset and tested it on a baseline model called You Only Hear Once (YOHO)
- Improved upon the baseline model by incorporating advanced embedding models such as VGGish and EfficientNet, achieved comparable F1 scores to YOHO but with lower loss, indicating its proficiency in predicting start and end timestamps.
- These findings deliver valuable insights for future research in audio analysis and encourage further exploration of architectural modifications and dataset augmentation to enhance performance in the field.

Captionary | Academic Project, Art and Machine Learning. [https://tinyurl.com/captionary] — February 2023 – February 2023
- Developed a game inspired by Pictionary, integrating AI as a guiding tool for the guesser to arrive at the solution.
- Employed the ScribbleDiffusion model, a Generative AI model, to generate images based on a user's sketch and a text prompt
- Fine-tuned an image captioning model on a custom dataset tailored for the game, ensuring accurate scoring of player guesses.
- Resulted in an engaging and interactive gaming experience, combining traditional drawing elements with AI-powered assistance.

LEADERSHIP

Held the position of Technical Director/Vice Chair at the Association for Computing Machinery, VIT Student Chapter, from April 2020 to April 2021. Served as Co-Editor for the ACM-VIT Medium Blog, from September 2019 to April 2021.