

ASHUTOSH HATHIDARA

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Education

Indiana University Bloomington

Master of Science in Computer Science

- Cumulative GPA: 3.96/4

August 2021 – May 2023

Bloomington, Indiana, USA

Indian Institute of Information Technology, Design & Manufacturing

Bachelor of Technology in Computer Science

- Cumulative GPA: 9.71/10.0 with Gold Medal

July 2016 – May 2020

Kurnool, Andhra Pradesh, India

Technical Skills

Languages: Python, JavaScript, TypeScript, C++, HTML/CSS, SQL

Databases: MongoDB, MySQL, PostgreSQL

Deep Learning Libraries: TensorFlow, PyTorch, PyTorch-Geometric, PyTorch-Lightning, spaCy, Scikit-learn

Web Technologies: ReactJS, GatsbyJS, NodeJS, D3.js, Plotly

Design Tools: Figma, Adobe XD, After Effects, Adobe Premiere Pro

Cloud Developer Tools: GCP, AWS, Azure

Technologies/Frameworks: Docker, Kubernetes, GitHub Actions, Linux, Jenkins, DVC, CML

Experience

TikTok Inc.

June 2023 – Present

Machine Learning Engineer

Mountain View, California, USA

- Improving ads ranking models on the core TikTok product. Experience working on modeling two-tower architectures like DeepFM, Wide & deep learning, etc.
- Working on Large Language Models (LLM) pretraining and Large Multi-modal Model (LMM) finetuning strategies.

TikTok Inc.

May 2022 – Aug 2022

Software Engineering Intern (Machine Learning)

Palo Alto, California, USA

- Building new features on the backend recommendation system, specifically ranking algorithms for Ads that touch hundreds of millions of people around the world.
- Improving online and offline content ranking algorithms by performing hard sample data replays for training steps.

Anthem Inc.

June 2020 – July 2021

Associate Software Engineer

Hyderabad, Telangana, India

- Supervised by Director of AI Dr. Devarkonda Durga Prakash.
- Worked on projects like real time doctor-patient meeting transcription (The Hive), WorkOS for low code development environment, Medicaid Benefit Search Engine to process insurance claims faster.
- Received Anthem Impact Award 3 times in just 1 year of employment.

Projects

Image Editing by Manipulating Diffusion Process | PyTorch, Stable Diffusion Models, DDIM, Null-Text Inversion

- Objective: To edit real or synthetic image by manipulating reverse diffusion process of a pretrained stable diffusion model.
- Implemented four different ways of manipulating diffusion path MDP-epsilon, MDP-x, MDP-beta, MDP-c which enables real and synthetic image editing at inference.

Persona2Vec-GCN | PyTorch, PyTorch-Geometric, StellarGraph, Scikit-learn, Numpy, Pip packaging

- Objective: To create GCN based representation learning framework for graphs. This is an independent research study under Dr. YY Ahn at Indiana University.
- Worked closely with Variational Graph Autoencoders to significantly improve the accuracy of neural node embeddings for link prediction and classification tasks.

Explainable CNNs | Python, PyTorch, PyTorch Lightning, OpenCV, CUDA, Pip Packaging

- Objective : To generate layer-wise visual explanations for any PyTorch based CNN classification model.
- Created python pip package to generate different types of layer-wise and class-wise visual explanations based on Grad CAM, Guided Grad CAM and Saliency maps.

Face Interpolation and Editing | Python, TensorFlow, Flask, Docker, AWS

- Objective : To generate images of faces combining features from multiple face images. (Latent space exploration)
- Created StyleGAN encoder model to create embeddings from the face images and then those embeddings can be linearly interpolated and passed to StyleGAN Generator.