Vignesh Edithal

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WORK EXPERIENCE

Advanced Micro Devices (AMD) **May 2023 - present**
Senior AI Research Engineer **Markham, Ontario**

- Finetuned CLIP and Auto Encoder models to detect interesting events in FPS gameplay with $> 90\%$ accuracy
- Designed efficient data collection methodology to develop > 50 GB in-house video dataset in a month
- Optimized state-of-the-art transformer models for deployment using ONNX framework
- Collaborated with industry and academia to deliver research poster presentation in both settings

D. E. Shaw **July 2018 - July 2022**
Senior Member Technical **Hyderabad, India**

- Enabled firm-wide hierarchical permission management feature using Python and SQL backend
- Automated third party file transfers for HR using Python/Bash scripting leading to 10% ticket reduction
- Provided engineering support for production Linux cluster to SysAdmin team to reduce SRE escalations

PROJECT WORK

Brain Tumor MRI synthesis using aggregation of GANs [GitHub] [Report] University of Toronto

- Implemented and trained DCGAN and WGAN models from scratch with tuned hyper-parameters
- Pre-processed data using up/down-sampling and used style transfer for post processing
- Obtained PSNR and SSIM scores comparable to relevant literature
- Showcase research in poster presentation with industry/faculty and submitted conference format report

Insurance Premium Modelling [GitHub] [Report] **University of Toronto**

- Grid search tuned XGBoost regression to independently model frequency and severity of insurance policy
- Geographical clustering using DBSCAN. Data Imputation using Gaussian Mixture model. Frequency encoding
- Model validation using synthetic data from SDV library Copula. Tune profit loading in a competitive setting

PUBLICATION

Novelty Goes Deep. A Deep Neural Solution To Document Level Novelty Detection. (Ghosal, Edithal et. al., COLING 2018). (aclanthology.org/C18-1237)

Is your document novel? Let attention guide you. An attention-based model for document-level novelty detection. (Ghosal, Edithal et. al., Natural Language Engineering 2022). (Journal article)

EDUCATION

University of Toronto **September 2022 - December 2023 (expected)**
MSc in Applied Computing: Deep Learning, Computer Vision, Data Science **GPA: 4.0/4.0**

IIT Madras **December 2021 - August 2022**
Diploma in Data Science: Statistics, Machine Learning, Business Analytics **GPA: 9.3/10**

IIT Patna **September 2014 - May 2018**
BTech in Computer Science: Algorithms, Databases, Operating Systems **GPA: 8.9/10**

TECHNICAL STRENGTHS

Scripting	Bash, PowerShell, Python
Deep learning	Transformers, PyTorch, Keras, Hugging Face
Computer Vision	OpenCV, TorchVision, Decord, Scikit-image
Data Science	Pandas, Numpy, Matplotlib, Scikit-learn, SQL Alchemy