Shuvozit Ghose

☎ +1-431-554-2105 ✉ shuvozit.ghose@gmail.com 🌐 /shuvozitghose.github.io/ 📍 Canada
in /shuvozitghose/ 🔗 /ShuvozitGhose

Summary

An Artificial Intelligent (AI) or Machine Learning(ML) engineer / Data Scientist with 5+ years of hands-on experience in machine learning research and development with publication at top conferences (like CVPR, ICCV, ICPR, ICASSP). My expertise encompasses a profound understanding of key machine learning or deep learning concepts, coupled with a comprehensive grasp of data preprocessing, model training, and effective deployment strategies. My practical work has spanned diverse machine-learning techniques, including prompt learning, Large language models (LLMs), graph neural networks, Transformers, graphical models, dimension reduction, clustering, classification, regression techniques, etc.

Education

Master of Science — ML Specialization *Sept 2021 – Oct 2023*
DGPA: 4.20/4.50 University of Manitoba, Canada
Thesis: CLIP for Point Cloud Understanding

Bachelor of Technology — Computer Science and Engineering *Aug 2016 – Aug 2020*
DGPA: 8.87/10. West Bengal University of Technology, India

Technical Skills

Python | Pytorch | OpenAI | Large language models(LLMs) | Natural Language Processing(NLP) | Azure | Reinforcement Learning(RL) | Computational geometry | Computer Vision(CV) | GenerativeAI | Git | AWS | Microsoft Power BI | Financial Data | Docker | Kubernetes | Software Development Life Cycle | CI/CD | Tensorflow | OpenCV | SQL | Numpy | Panda | Java | C++ | C

Professional Experience

Graduate Research Assistant | *University of Manitoba* *Sept 2021 – Oct 2023 | Canada*

- Developed 3D Generative AI-based point cloud recognition model utilizing Large language models (LLMs) and image-based geometric deep learning models using Python and Pytorch.
- Developed point cloud classification model performing 3D shape analysis, topology analysis, view geometry analysis, functional mapping, and geometric deep learning.
- Developed Multi-modal deep learning for point cloud classification by connecting Large language models (LLMs) with image models.
- Computed inference using PyTorch on both CPU and GPU running CUDA 11.2 (@Acc > 90%).

Graduate Teaching Assistant | *University of Manitoba* *Sept 2021 – Oct 2023 | Canada*

- Collaborated with the instructor and led the lab for undergraduate students for course Comp 2140 (data structure and algorithm using Java).
- Collaborated with the instructor and Graded courses COMP 4360 (machine learning using Python), COMP 2150 (object orientation using Java, C++, and Javascript), COMP 3350 (Software Engineering using Java and Android Studio), and COMP 3490 (Computer Graphics I using processing).

Research Intern | *University of Surrey* *June 2020 – Mar 2021 | UK*

- Developed deep learning model for 2D image and text recognition exploiting neural network architectures, regularization techniques, learning techniques, loss functions, optimization strategies, etc using Python and PyTorch.
- Developed transformer-based 2D text image recognition model for handwriting and scene text recognition using TensorFlow.

Certification

Big Data Hadoop by Omega Technologies

- Extracted raw e-commerce data from GitHub and stored it in Hadoop HDFS storage.
- Applied MapReduce for Parallel distributed processing of e-commerce data.
- Utilized Hive for querying and analyzing structured commerce data stored in HDFS.
- Utilized Pig for data processing tasks such as data cleaning, transformation, aggregation, and insights.

Notable Projects

2021 Tokyo Olympic data analytics in Microsoft Azure

- Extracted raw Tokyo Olympic data from GitHub using Azure Data Factory.
- Transformed raw data using Apache Pysparck in Azure Databricks and stored in Azure Data Lake Gen 2.
- Loaded transformed data in Azure Synapse Analytics and Visualized the results using Microsoft Power BI.

Design Personal Website using HTML, CSS, Javascript and AJAX (Demo)

- Designed Personal Website using HTML, CSS, Javascript, and AJAX
- Designed navigation header for the website and hosted on GitHub.
- Integrated Google Analytics for traffic analytics and management.

Achievements

1. Awarded **University of Manitoba Graduate Fellowship (UMGF)** at the University of Manitoba 2022-2023.
2. Awarded **International Graduate Student Entrance Scholarship (IGSES)** at the University of Manitoba 2021.
3. Got NPTEL Elite Certification in Deep Learning for Visual Computing, 2018.

Publications

C7 **Joint Visual Semantic Reasoning: Multi-Stage Decoder for Text Recognition** *Oct 2021*
Ayan Kumar Bhunia, Aneeshan Sain, Amandeep Kumar, **Shuvozit Ghose**, Pinaki Nath Chowdhury, Yi-Zhe Song
IEEE Conference on International Conference on Computer Vision **(ICCV)** PDF

C6 **MetaHTR: Towards Writer-Adaptive Handwritten Text Recognition** *June 2021*
Ayan Kumar Bhunia, **Shuvozit Ghose**, Amandeep Kumar, Pinaki Nath Chowdhury, Aneeshan Sain, Yi-Zhe Song
IEEE Conference on Computer Vision and Pattern Recognition **(CVPR)** PDF

C5 **Modeling Extent-of-Texture Information for Ground Terrain Recognition** *Sept 2020*
Shuvozit Ghose, Pinaki Nath Chowdhury, Partha Pratim Roy, Umapada Pal
IEEE International Conference on Pattern Recognition **(ICPR)** PDF

C4 **UDBNET: Unsupervised Document Binarization Network via Adversarial Game** *Sept 2020*
Amandeep Kumar*, **Shuvozit Ghose***, Pinaki Nath Chowdhury, Partha Pratim Roy, Umapada Pal
IEEE International Conference on Pattern Recognition **(ICPR)** PDF

C3 **Fractional Local Neighborhood Intensity Pattern for Image Retrieval using Genetic Algorithm** *Sept 2020*
Shuvozit Ghose, Abhirup Das, Ayan Kumar Bhunia, Partha Pratim Roy
Multimedia Tools and Applications PDF

C2 **A Deep One-Shot Network for Query-based Logo Retrieval** *July 2019*
Ayan Kumar Bhunia, Ankan Kumar Bhunia, **Shuvozit Ghose**, Abhirup Das, Partha Pratim Roy, Umapada Pal)
Pattern Recognition PDF

C1 **User Constrained Thumbnail Generation Using Adaptive Convolutions** *May 2019*
Perla Sai Raj Kishore, Ayan Kumar Bhunia, **Shuvozit Ghose**, Partha Pratim Roy
International Conference on Acoustics, Speech, and Signal Processing **(ICASSP)** PDF