



Arijit Dey

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EDUCATION

Degree	Specialization	Institute	CGPA	From	To
MS	Electrical and Computer Engineering	University of California, Los Angeles	3.85/4	2023	2024
M.Tech	Electrical Engineering	Indian Institute of Science	8.0/10	2021	2023
B.E.	Instrumentation and Electronics Engineering	Jadavpur University	8.91/10	2017	2021

WORK EXPERIENCE

• Data Scientist - AI Health Analytics

Aug'24 - Present

Symviq India pvt. Ltd.

- Designed and implemented vision-language based models for the classification of Chronic Kidney Disease and Chronic Heart Disease using biomarkers from retinal fundus images.
- Built a foundational model with 86M parameters to support multiple downstream tasks in medical imaging.
- Trained a SimCLR-based vision encoder as part of a OpenAI CLIP model, enabling the use of textual descriptions to provide contextual embeddings for images.
- Achieved 91% accuracy on a proprietary chronic disease dataset, demonstrating strong model performance and generalization.

RELEVANT COURSES TAKEN

- **IISc:** Random Processes, Linear Algebra, Pattern Recognition and Neural Networks (Machine Learning 101), Advanced Deep Representation Learning
- **UCLA:** Convex Optimization, Neural Networks and Deep Learning, Advanced Neural Networks and Deep Learning, Decision Making in Stochastic Processes

PUBLICATIONS

- **Arijit Dey**, Bahman Gharesifard. *Convergence of Asynchronous Stochastic Gradient Descent for Polyak-Łojasiewicz Functions*¹. Submitted to *IEEE Transactions on Automatic Control*.

PROJECTS

• Graph Neural Networks (GNNs) Module

Sep'25 - Present
Personal Project

- Developed a library using TensorFlow/Keras for basic GNN training/inference.
- Supports graph convolution, graph attention, differentiable pooling, etc via its flexible API.
- Strong examples on protein (graph) classification demonstrating a single-fold 80% validation accuracy on TUProteins dataset.
- Available on <https://github.com/arijitcodespace/GNN-Keras3>

• Text-to-Image Synthesis Optimization

Mar'24 - June'24
MS Project

Prof. *Vwani P Roychowdhury, UCLA*

- Researched text-to-image GAN architectures, optimizing CBAM under hardware constraints.
- Integrated CLIP embeddings for stronger text-conditioning, boosting semantic alignment. Achieved FID 9.85 with a 10.6M param generator vs. StyleGAN-2's 2.84 (49M params).

• Implementing a Mini-GPT

Mar'24
Course Project

Prof. *JC Kao, UCLA*

- Implemented Mini-GPT for story generation, using weight tying to reduce parameters and increase robustness.

¹<https://arijitcodespace.github.io/assets/papers/paper.pdf>

– Achieved Top-3 token Accuracy of 88.6% on TinyStories Dataset.

- **Designing methods for clustering signatures of Volatile Organic Compounds (VOCs)**

Prof. Rajib Bandyopadhyay, Jadavpur University

Jan'21 - Apr'21

Bachelor's Thesis

– Built a fast, low-cost compound detection system using E-Nose tech and ML as an alternative to spectrometry.

– Combined shallow Neural Nets and Decision Trees for hierarchical filtering and feature extraction, achieving 91% accuracy and 0.89 F1 (vs. 83% and 0.53 with vanilla DTs).

HONORS AND AWARDS

- Secured All India Rank 66 in GATE EC examination 2021 out of approximately 85000 examinees in total