ESHA PAHWA

Member of Technical Staff - I at Adobe Systems, India

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WORK EXPERIENCE

Member of Technical Staff - I
Adobe Systems
July 2023 - Present — Noida, Uttar Pradesh India

- Actively involved in the backend development of the integration of Adobe's in-house generative AI tools for auto-generating marketing emails for Adobe Campaign.
- Proficiently deployed **MobileNet model** and successfully achieved the objective of selectively incorporating images containing objects.
- Accomplished this deployment with remarkable efficiency, achieving an impressive **inference time of 0.02 seconds**.

Research Associate
Google Research
Jan 2023 - July 2023 — Bangalore, Karnataka India

- Worked on enhancing product retrieval in **Google Shopping Ads** based on user query via Tensorflow, and **conducted detailed result analysis** to identify areas for potential improvement.
- Transformed the implementation to **JAX**, employing both **data parallelism and model parallelism**, drastically **reducing training time from 9 hours to just 14 minutes** per epoch.

Visiting Researcher
Computer Vision Center
Aug 2022 - Dec 2022 — Barcelona, Spain

- Detected mode collapse issue within ProjectedGAN, a prevalent GAN variant, prompting the **design of an innovative architecture called ProjectedGAN++**.
- Enhanced adaptability to test datasets through the integration of pre-trained autoencoders using unsupervised learning, **reducing FID by 28.64%-55% for various datasets.**

Summer Research Intern
Adobe Systems
May 2022 – August 2022 — Noida, Uttar Pradesh India

- Implemented **lookalike modeling** while leveraging second-party data of different campaigns belonging to different customers.
- Successfully submitted a patent document focusing on segment prediction of one customer's data using another customer's data in a **privacy-preserving manner.**

Research Intern
VCG group, Harvard University
Feb 2022 – May 2022 — Cambridge, Massachusetts USA

- Pioneered the domain of **interpretable super-resolution**, introducing innovative texture classifiers and autoencoders that underwent rigorous assessment across distinct datasets for cross-training and cross-testing.
- Contributed to the unexplored frontier of computer vision by delving into **dataset-distillation** techniques for super-resolution.

SELECTED PUBLICATIONS

- *MedSkip: Medical Report Generation using Skip Connections and Integrated Attention*:- **E Pahwa***, D Mehta*, S Kapadia*, D Jain*, A Luthra; **ICCV workshop - CVAMD 2021 (presented in ICCV proceedings)**
- *LVRNet: Lightweight Image Restoration for Aerial Images Under Low Visibility*:- **E Pahwa***, A Luthra*, P Narang; **AAAI 2023 Student Abstract**
- *Conditional RGBT Fusion for Effective Crowd Counting*:- **E Pahwa***, S Kapadia*, A Luthra*, S Shreyas*; **IEEE ICIP 2022**
- *DroneAttention: Sparse weighted temporal attention for drone-camera based activity recognition*:- S K Yadav, A Luthra, **E Pahwa**, K Tiwari, H Rathore, H Pandey, P Corcoran; **Neural Networks Journal (Impact Factor: 9.657)**.

ACHIEVEMENTS

Adobe WIT Scholarship 2022
Was awarded the Adobe WIT scholarship India 2022 along with 5 other recipients across India.

ARTPARK IISc Grant
Was selected for IISc grant out of the whole batch in my department.

Grace Hopper Celebration Scholarship 2021
Was provided an amazing opportunity to be a part of the world's biggest gathering of women in computing.

CVRS
Founder of Computer Vision Research Society, BITS Pilani with the aim of promoting research culture at my college.

EDUCATION

B.E. in Computer Science, M.Sc. in Chemistry
BITS, Pilani
2018-2023 Current CGPA: 8.38/10

ISC 12th Board Examinationss
Shikshantar School
2016-2018 Percentage: 98.4/100

ICSE 10th Board Examinations
Shikshantar School
2014-2016 Percentage: 97.8/100

COURSEWORK

- Deep Learning
- Introduction to Machine Learning
- Object Oriented Programming
- Database Management Systems
- Data Structures and Algorithms
- Operating Systems

SKILLS

JAX | Java | Python | C | MySQL | Numpy | Pandas | Pytorch | Tensorflow | Keras | HTML/CSS | Linux | Windows | Flask | Git

MISCELLANEOUS

- Reviewer at ICCV CVAMD 2023 and ECCV MCV 2022
- Teaching Assistant in the course Neural Networks and Fuzzy Logic (NNFL)
- Completed individual projects such as AQI Prediction and Diabetic Retinopathy Detection