

# ESHA PAHWA

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## EDUCATION

### Carnegie Mellon University

Master of Science in Machine Learning

Courses: Probability and Statistics, Intro to Machine Learning, Intermediate Deep Learning

### Birla Institute of Technology and Science, Pilani

B.E. in Computer Science, M.Sc. in Chemistry

Pittsburgh, PA

Dec 2025

Pilani, India

Jun 2023

## EXPERIENCE

### Adobe

Jul 2023 – Aug 2024

*Member of Technical Staff - I*

*Noida, India*

- Spearheaded the backend the integration of **Adobe's AI tools for auto-generating emails, SMS, and push notifications**, boosting efficiency and earning the **Adobe Spot Award** for outstanding contributions.
- Engineered and streamlined the smart-token calculation for LLM token usage in email generation, **reducing operational costs and risk of throttling by 27% through dynamic token allocation**.
- Developed an API for automated thumbnail generation using Puppeteer, **reducing generation time by 70% for heavy webpages**, and deployed on Azure Functions to mitigate risks from malicious inputs.
- Designed and implemented a **multilingual API for a prompt library** catering to solution-specific needs, streamlining content generation across diverse market segments.

### Google Research

Jan 2023 - Jul 2023

*Research Associate / Supervisor: Prateek Jain & Gaurav Srivastava*

*Bengaluru, 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 **data parallelism** across TPUs, **achieving the training time of 14 minutes** for a 100K query dataset.

### Adobe - Media and Data Science Research Labs

May 2022 - Aug 2022

*Research Intern / Supervisor: Piyush Gupta & Nikaash Puri*

*Noida, India*

- Pioneered a **shared encoder-decoder architecture**, optimizing the use of second-party data across campaigns, achieving an impressive **93.11%** accuracy and **0.994** ROC in cross-dataset predictions.
- Implemented a **privacy-preserving mapping model**, elevating segment prediction accuracy to **98.8%** and attaining a **0.978** cosine similarity.

### Harvard University

Feb 2022 - May 2022

*Research Intern / Supervisor: Hanspeter Pfister & Salma Abdel Magid*

*Remote*

- Explored and conducted a literature survey on various applications of super-resolution (SR) of images, such as **face SR for images** with poor quality, **removing bias in SR**.
- Initiated advancements in interpretable super-resolution, introducing and rigorously assessing innovative **texture classifiers** and autoencoders across diverse datasets for cross-training and cross-testing.

## INDIVIDUAL PROJECTS

- **Pytorch Hackathon**: Built a web application for diabetic retinopathy detection using uploaded images. (Rank 25/5000)
- **Sentiment Analysis**: Participated in a training program of applied data science which was followed by an internship. Explored probabilistic methods such as **Naive-Bayes** to create a **Twitter sentiment analysis model** which achieved a fair accuracy of 70%.

## ACHIEVEMENTS AND OTHER EXPERIENCE

- **Scholarships**: 1) Adobe Women-in-Tech Scholarship 2022 - 6 women were selected across India. 2) Grace Hopper Celebration Scholarship'21
- **Reviewer at**: 1) ICCV CVAMD 2023. 2) ECCV MCV 2022

## TECHNICAL SKILLS

**Languages**: Python, Java, SQL, C

**Libraries**: Tensorflow, OpenCV, Keras, Pytorch, JAX, Numpy, Pandas