

EDUCATION

University of California, Santa Cruz (UCSC)

- *Master of Science in Natural Language Processing*

Santa Clara, CA

Sept 2023 - Present

Relevant coursework: Natural Language Processing I, Deep Learning for NLP, Data Science and Machine Learning Fundamentals

National Institute of Technology Karnataka (NITK)

- *Bachelor of Technology in Information Technology*

Surathkal, India

Aug 2014 - May 2018

TECHNICAL SKILLS

Programming Languages Python, C++, C, SQL, PHP

Relevant Tools/Frameworks Tensorflow, PyTorch, Git, OpenCV

EXPERIENCE

Samsung Research - *Lead Engineer*

Bangalore, India | June 2018 - June 2023

- Designed & developed a multi frame fully convolutional neural network model for real time low light video denoising for Samsung's flagship smartphone camera with the ability to process 1080p video at 30fps. This model achieved a PSNR of 37.09 and SSIM of 0.9309 on our test set, with 4x improvement in temporal consistency and 6% improvement in SSIM, while having 200x lower complexity than the closest real time SOTA lightweight video denoiser (FastDVDNet).
- Led a team of 3 engineers to achieve 10% performance gain in the multi-frame image processing pipeline to reduce shot-to-shot latency in Galaxy S23's native camera and ExpertRaw application.
- Created a video denoising dataset of 50000 training patches of size 512x512 with synthetically added motion from 2000 low light static videos with real noise.
- Supervised 3 engineers to capture, clean and transform a diverse dataset of over 200 videos covering all possible lighting and camera scenarios.

Siemens Technology - *Research Intern*

Bangalore, India | July - Dec 2017

- Developed & implemented an elaborate algorithm to extract equations & graphs from PDFs of technical documents using document metadata & data properties, achieving an extraction accuracy of over 55%.
- Trained a chart type classifier (transfer learned GoogLeNet) on 2500+ automatically scraped chart images to achieve an accuracy of 91%.

DataPhi Labs - *Data Science Intern*

Bangalore, India | May - June 2016

- Built a churn prediction engine using random forest classifier to predict the renewal propensity of a customer and achieved an F-score of 0.76. Developed a dynamic insights mining wrapper over this engine which parses the decision tree and intelligently generates user-specific insights, that are then used to retain the user with the system.

PATENT

- **System, apparatus and method of managing knowledge generated from technical data** (US20220358379A1)

SELECTED PROJECTS

Distracted Driver Detection

UnivAI | 2021

- Developed a distracted driver detection model using custom CNN architecture and fine-tuned EfficientNetB3 architecture, achieving a validation accuracy of 99%.

Text Emotion Classification

UnivAI | 2022

- Implemented a text emotion classifier using various NLP models like BiLSTM, LSTM and BERT and compared their performance and model explainability as part of this project.

ACHIEVEMENTS & ACTIVITIES

- **Completed Deep Learning Specialization by DeepLearning.AI (Coursera)** [2022]
- **Samsung Excellence Award** - New Valley R&D Project of the Year - Multi-frame Image Processing for S23 Camera [Samsung, 2023]
- **Samsung Citizen Award** - for excellence in advanced software development [Samsung, 2020]
- **Best Project Certificate - UnivAI's AI2 Course (Convolutional Neural Networks)** for Distracted Driver Detection - Part of one of 3 teams out of 25 to be awarded. [2021]
- **Headed the Publicity Team for one of India's top college cultural festivals - Incident 2018.** Led a team of 50 to record the highest student participation and revenue generation at the time. [NITK, 2018]