

Ayan Bag

<https://ayanbag.com>

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Education

Kalyani Government Engineering College

Bachelor of Technology in Electronics and Communication

Aug. 2017 – Aug. 2021

CGPA: 8.30/10.00

Experience

Tata Consultancy Services

Assistant System Engineer

Aug. 2021 – Present

Kolkata, West Bengal

- Working with SAP CRM tools along with various automation frameworks, for manual as well as automation testing of pre-existing e-commerce applications and retail services.

Academic Projects (incl. Preprints)

Image Captioning using CNN Encoder and RNN Decoder

[\[code\]](#)

- Developed an attention-based model using Convolutional Neural Network Encoder and Recurrent Neural Network Decoder, which enables us to generate suitable caption for the given image.
- Used 30,000 images from MS-COCO dataset to train our model and achieved an average BLEU Score of 0.512

Lossy Image Compression Using SVD And FFT

[\[code\]](#) [\[paper\]](#)

- Developed an image compression algorithm by combining Singular Value Decomposition (SVD) and Fast Fourier Transform (FFT), and compared our proposed algorithm with CT Compression algorithm at different compression ratio in terms of Peak Signal-to-Noise Ratio (PSNR) and Structural Similarity Index Measure (SSIM) values.

A Comparative Study of Regression Algorithms for Predicting Graduate Admission

[\[code\]](#) [\[paper\]](#)

- Compared three well-known Regression Algorithms against the problem statement i.e to predict the chance of admission of a candidate to a university in the United States based on their profile metrics and proved that Linear Regression is much better than other regression algorithms like Decision Trees and Random Forest in terms of accuracy to predict the chances of admission to a university or on similar types of data-sets when evaluated on unseen data.

Personal Projects

Gesture Control | *Python, OpenCV, Mediapipe*

[\[code\]](#)

- Developed an application using python which uses computer vision techniques to control the mouse cursor through hand gestures using the webcam and perform basic tasks

ImageColorizer | *Python, OpenCV*

[\[code\]](#)

- Build an application which uses a pre-trained model proposed by Zhang et al.'s 2016 ECCV paper, "[Colorful Image Colorization](#)" to transform black and white images into beautiful colored images

Radio Signal Classification | *Python, Tensorflow*

[\[code\]](#)

- Build and trained a convolutional neural network from scratch using Keras to classify deep space radio signals collected by the Allen Telescope Array at the SETI Institute.

Publication(s)

Real Time Facial Expression Recognition using Convolution Neural Network Algorithm

[\[code\]](#) [\[paper\]](#)

- Author: Ayan Bag
- Journal: International Journal for Research in Applied Science and Engineering Technology (IJRASET)

Technical Skills

Languages: Python, Java, JavaScript, HTML, MySQL, R

Developer Tools: Git, VS Code, Power BI

Technologies/Frameworks: Pandas, NumPy, Sklearn, Tensorflow, Matplotlib, Streamlit, Flask

Relevant Coursework

- | | | | |
|-------------------------|-----------------------|-------------------|-------------------------|
| • Data Structures | • Algorithms Analysis | • Microprocessors | • Computer Networks |
| • Linear Algebra & ODEs | • Database Management | • C Programming | • Computer Architecture |