

EDUCATION

Birla Institute of Technology and Science, Pilani

BE in Electronics and Instrumentation Engineering, CGPA: 8.31/10.0

Goa, India

2018–Current

Tata Chem DAV Public School

XIIth, Percentage: 96.60%

Babrara, India

2015–2017

– District Topper in PCM for 2017 AISSCE

PROJECTS

Emotion Detection using ML and Graph Network Analysis *sklearn, networkx*

- Under Prof JK Sahoo in collaboration with Cognitive Neuroscience Lab (BITS Pilani, Goa). Identify emotional response of brain using ML with graph network analysis

auto-grad *numpy*

- Toy Deep learning library with numpy as only dependency. Includes automatic differentiation and implementation of various optimizers like SGD, Momentum, Adagrad and Adam. Includes tutorials also. Link to the repo.

Car Speed Detection *pytorch*

- Part of commaai speed challenge, uses fine tuned VGG to detect speed of car from its dashcam. Achieves an RMSE of 7 kmph in validation set. Link to the repo on github.

Neural Style Transfer *pytorch*

- Inspired by Gatys et al, 2016 *Image Style Transfer Using Convolutional Neural Networks*, uses VGG16 with Gram Matrix loss to transfer style in image. Link to the repo on github.

SleepSort *pytorch*

- Sleep Stage Scoring from raw single channel eeg data, uses 2 parallel conv nets and addresses medical problems associated with the change in eeg data. Part of BITS F315 Intro to Cognitive Neuroscience

LyricMe *pytorch*

- Implementation of Character Level RNN. Uses a single word input to generate complete lyrics of specified length. Link to the repo on github.

CopyCat - Lite Text Editor in C

- A light weight text editor in C without any external dependencies. Supports syntax highlighting for several common languages. Link to the repo on github.

OPEN SOURCE CONTRIBUTION

KD Lib (91 Stars)

SAiDL

- Implementation and bench-marking of various knowledge distillation techniques including Vanilla KD, PKT, RKD, etc. Link to the repo on github: [Here](#)

MLPack - A Machine Learning Library in C++

MLPack

- Contributing in free time since Oct 2019. Extending callbacks, implementing silhouette score metric, utility functions, etc. Link to the repo on github: [Here](#)

EXPERIENCE

Bhaskaracharya Institute of Space Applications and Geoinformatics

Research Intern

Gandhinagar

May'20–July'20

- Modelled Stock Prices to achieve an RMSE of INR 21.41
- Part of team of Scientist Dr. DK Jhala
- Evaluated different linear models and reason their performance

Student Welfare Division

Lead Backend Developer

BITS Goa

Feb'19–Current

- Revamped college website, hosted here
- Leading the back-end development team for website
- Added features for online MCN form filling, mess option filling: full list here

SKILLS

- **Programming Languages:** C/C++, Python, Bash, SQL, MATLAB, Java
- **Frameworks:** pytorch, tensorflow, flask, django, reactJS
- **Other:** AutoCAD, Git, \LaTeX
- **Operating System:** Ubuntu, Windows
- **Languages:** English, Hindi, Urdu

RELEVANT COURSES

- **Mathematics:** Mathematics I (Calculus), Mathematics II (Linear Algebra and Complex Analysis), Mathematics III (Differential Equations), Probability and Statistics, Statistical Inference and Applications ¹, Discrete Mathematics ¹
- **ML/AI:** Machine Learning (Stanford - Online), CS231n Convolutional Neural Networks for Visual Recognition (Stanford - Online), Deep Learning Specialization (5 Courses) (Coursera, deeplearning.ai)
- **Other:** Signal and Systems, Control Systems, Intro to Cognitive Neuroscience, Computational Physics ¹

EXTRA-CURRICULAR

- Teaching and Mentoring at **Abhigyaan** Sep 2018–May 2020
NGO which teaches underprivileged people from in and around campus daily

¹*: Ongoing