Akhilesh Adithya
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EDUCATION

Bachelor's of Engineering in Computer Science Goa, India | Jun 2023
BITS Pilani
Coursework: Neural Networks and Fuzzy Logic; Data Structures and Algorithms; Object Oriented Programming; Database Systems; Digital Design; Logic in Computer Science; Linguistics

PROJECTS

PORTFOLIO WEBSITE | | Jul 2020 – Jun 2021

- A portfolio website created using HTML, vanilla JS and CSS. Contains all the miscellaneous projects that I did when I learnt web development.
- Old version of the website was made using Gatsby, Three.js and GraphQL.

COVID19 DETECTION AND SEGMENTATION | iNeuron.ai Bangalore, India | Apr 2021 - July 2021

- Created a unet model to detect the presence of Covid 19 infection and to create segmentation masks on MRI scan data in the .nii file format.
- Used flask coupled with HTML and Javascript to host the model on a web page.

MAXIMISING INFORMATION RETRIEVAL FROM IMAGES | BINN Labs BITS, Pilani | May 2021 – Current

- Project under **Prof. Basabdatta Sen Bhattacharya**.
- Utilised techniques such as SVD, pseudo inverse and Look Up Tables[LUT] to maximise information retrieved from images. Quantitatively measured the information loss under varying levels of removal of singular values.
- Coded Petrovic and Xydeas's perceptual information preservation algorithm in python. Applied Difference of Gaussian filters and ranked coefficients to simulate rank order retrieval in primate visual system.

CANCER PATHOLOGY USING DEEP LEARNING ON SEQUENCE DATA | ViStA Lab BITS, Pilani | June 2021 – Current

- Project under **Prof. Sumit Biswas**.
- Processed and used sequence data of mRNA and peptides as features to detect and classify cancer.
- Currently testing out various NLP techniques and models such as BERT, transformers,attention for the purpose of classification.

ADVERSARIAL ATTACKS ON ANDROID MALWARE DETECTORS | BITS, Pilani | May 2021 – Current

- Project under **PhD student Hemant Rathore**.
- Extracted android permissions and intents from the .apk files found in the drebin dataset and non malicious datatset using apktool.
- Created various Machine Learning models to detect whether the .apk file is malicious or not.
- Used Wasserstein distance metric to check the similarity between a malicious sample and the "nearest" benign sample.
- Altered the malicious sample in the direction of the nearest benign sample to force the ML model to misclassify the malicious sample as a benign one.

SKILLS

Languages: Python, C++, Javascript, Java
Libraries: TensorFlow, Keras, PyTorch
Web Development: React, JavaScript, TypeScript, HTML/CSS, Vue
Technology: Matlab, Git, LaTeX, MongoDB, RavenDB, NodeJS, Express, Electron