Akhilesh Adithya
GitHub://AkhileshAdithya
LinkedIn://akhilesh-adithya-445b661b0

Email : akhileshadithya311@gmail.com
Mobile : +91 9538905353
Website : akhileshadithya.github.io

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
Teacher Assistant (TA): Deep Learning(CS-F245); Principles of Management(MGTS-F211)

PROJECTS

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

- Project under **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 Manhattan 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.

BIOLOGICALLY INSPIRED VISION | 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.
- Used Foveal pit inspired Difference of Gaussian filters to extract edges from images for improving object detection.
- Used the FoCal algorithm from Prof. Basabdatta's thesis to rank order encode images and extract perceptual information by removing residual filter overlap.

OPPORTUNISTIC CONTINUOUS EMOTION ANNOTATION | IMHI Lab BITS, Pilani | August 2021 – Current

- Project under **Prof. Surjya Ghosh**.
- Current forms of continuous evaluation is cumbersome for both the managers as well as the participants. Hence we developed OCEAn.
- Created OCEAn - a model for Opportunistic Continuous Emotion Annotation. Utilizing CASE dataset, computed the change point scores using RuLSIF algorithm for each of the physiological sensors.
- Applied K-means clustering to choose probe points based on the change point score. Probe points were then used to check the corresponding valence and arousal scores. This was then used to measure performance of OCEAn.

PORTFOLIO WEBSITE | | Jul 2020 – Jun 2021

- A portfolio website created using HTML, vanilla JS and CSS. Contains all the miscellaneous projects such as the discord bot, deep learning based flappy bird and other miscellaneous WebDev and ML projects.
- Old version of the website was made using Gatsby, Three.js and GraphQL.

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

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

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