Anwesan De

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EDUCATION

Birla Institute of Science and Technology, Pilani

Hyderabad, Telengana, India

Bachelor of Engineering in Electronics and Instrumentation, Minor in Robotics

Aug. 2019 - July 2023

EXPERIENCE

Undergraduate Research Intern

Nov 2021 – Present

Indian Institute of Technology, Kanpur

Kanpur, Uttar Pradesh

- Working with the Dept. of Cognitive Science to develop effective ways to combat Parkinsonian Tremor
- Analysis of instruments and signal processing methods to identify tremors and counteract the effects

Undergraduate Student Researcher

Aug 2021 – Present

Dept. of Pharmacy, Birla Institute of Science and Technology, Pilani

Hyderabad, Telengana

- Analysis of Local Field Potentials
- Applications of signal processing methods
- Developed MATLAB and Python code to automate the process of reading , analysing and generating the analysis report

Summer Intern May 2021 – July 2021

Military College of Electronics and Mechanical Engineering

Secunderabad, Telengana

- Worked on developing soldier's health monitoring system
- Applied the use of Body Sensor Networks(BSN) and Arduino UNO
- Developed an algorithm which takes into account the various bodily parameters and predict the health condition of the soldier

PROJECTS

AI based Google Chrome Dinosaurs Game | Github Link

Mar 2021 – April 2021

- A Deep Q Network algorithm was used to train the agent
- A Convolutional Neural Network was used to analyze the pixel data
- A Custom Gym environment was created to access the game on Google chrome and manipulate it

Mass mailing encrypted PDF | Github Link

June 2021 - July 2021

- It encrypts a PDF with the date of birth of the receiver(by default) and sends it to the receivers
- This script uses a tkinter gui
- A sqlite3 database stores the information of the users(name, DOB, Email)
- It is completely customisable and new features are being added (text-to-speech etc.)

Applying Reinforcement Learning Algorithms on gym environment | Github Link | Apr 2021 - May 2021

- Using standard Gym environments I have used various algorithms like Q table and Deep Q Network to teach the agent in solving the environments
- Highway-v0: Trains the AI to manage traffic
- CartPole-v0 Trains the AI to balance the pole on a cart

VOLUNTEERING

Phoenix Association, Electrical Engineering Association

Sep 2019 – Present

- Contributed to its annual magazine, Livewire and wrote the cover story
- Member of the organizing body for our technical fest , ATMOS and helped in organising the Paper Presentation event.

cruX, Computer Programming Club

Mar 2021 – Present

• Was part of the team that organised a summer training program in Machine Learning for the students of Bits Pilani

Rotaract Bits Pilani Sep 2020 – Oct 2021

- Served as the Secretary of the club for a brief period (July 21 Oct 21)
- Collaborated with REAP Benefit on water waste analysis and solutions.

Amazon Machine Learning Summer School

July 2021

• Shortlisted for Amazon Ml summer School where Ml topics like Supervised Learning, dimensionality reduction, Probabilistic Graphical model from among the top 20 institutes of India.

Hacktoberfest '21 Oct 2021

• Took part and completed this prestigious open-source hackathon

Member, Millennium Campus Network

Aug 2021 - Dec 2021

• Selected for membership for the prestigious Millennium Campus Network program a joint effort under United Nations.

Publications in Towards Data Science

May 2021

- <u>Hitchhiker's Guide to Sentiment Analysis using Naive-Bayes Classifier</u> An article which serves as an introduction to Naive Bayes Sentiment Analysis
- <u>The Intuition behind Reinforcement Learning</u> An Article on the intuitive introduction to Reinforcement Learning and its components

TECHNICAL SKILLS

Languages: Python, C, Java, MATLAB, LaTeX

Courses: Computer Programming (CS F111), Operating Systems, Object Oriented Programming, Internet of Things

Developer Tools: Git, VS Code, PyCharm, MATLAB, LTSpice **Libraries**: pandas, NumPy, Matplotlib, TensorFlow, Scipy