Anwesan De

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PROFILE

I am Electronics and Instrumentation Undergraduate at Bits Pilani, currently in my second year. My interest lies in Machine learning focusing on Reinforcement learning and it's application in Robotics , healthcare ,Autonomous Vehicle motion , lane changing operation , traffic navigation . Information technology and Data Science is deeply appealing to me as well.

EDUCATION

Birla Institute of Technology and Science , Pilani

Hyderabad Campus

Bachelor Of Engineering , Electronics and Instrumentation **Graduation year**:2023

CGPA: 8.11

SKILL-SET

- Python -[libraries: collection, NumPY, Pandas, Scikit-learn,Matplotlib, Seaborn, Keras, tkinter, OpenCV]
- MATLAB
- TensorFlow
- C
- AUTOCAD

PROJECTS

- **Using Reinforcement Learning to train AI to play Google Chrome Dinosaurs Game**:
  a) The Screenshot of the game environment was taken and the pixel value was optimized using OpenCV library in Python.
  b) A Deep Q Network algorithm was used to train the agent
  c) A Convolutional Neural Network was used to analyze the pixel data

d) A Custom Gym environment was created to access the game on Google chrome and manipulate it.

- **Experience with Standard Gym Environments and Reinforcement Learning:** Using standard Gym environments I have used various algorithms like Q table and Deep Q Network to teach the agent in solving the environments. Some Examples include:
  a) Highway-env – The main task in this environment is for the agent is to navigate a car in traffic by slowing down, increasing speed or changing lanes
  b) MountainCar-v0 and MountainCarContinuous-v0– The task was to carry the vehicle up a mountain in an under-powered car. The Agent had to learn to move the car back and forth to develop momentum.
  c) CartPole-v0 – The agent had to learn to make minute changes in position in the cart which in turn balances a rod and keeps it upright.
- **Minute Python projects:**To exercise my knowledge and my desire to learn I implemented the following python scripts in my day-to-day functioning:
  a) A PDF to excel/LaTeX/csv format converter
  b) Solving ordinary point series, regular singular series and hypergeometric series .
  c) A web-scraper application which scrapes the pdf slides and documents from the professor's website . This was achieved using python library beautifulsoup4 and requests
  d) A calculator and a basic text editor using the python tkinter library
- **Informal Project**:Incoming informal project under Faculty on lane-changing autonomous vehicles using reinforcement learning .

COURSES TAKEN

- Introduction to Tensorflow for Artificial Intelligence , Machine Learning , and Deep Learning offered by DeepLearning.AI under Coursera.
- Machine Learning Course offered By Andrew Ng by Stanford|online under Coursera
- Statistics with Python Specialization offered by Michigan University under Coursera
- LaTeX101x: Latex for students , Engineers , and Scientists offered by IIT Bombay under edX

EXTRA CURRICULAR ACTIVITIES

- **Rotaract Club, Bits Pilani**: As a part of Rotaract of my campus i was involved with a water conservation project with Reap Benefit. We conducted a survey to find out the most prevalent ways in which water is wasted in our household. The dataset was restricted inside our campus. We came up with solutions to the problems . I was also part of charitable events like grain collection and donation to the less fortunate.
- **Phoenix**: As a part of Phoenix , the association for Electrical and Electronics Students , I contributed to its annual magazine and wrote the cover story . I was part of the organizing body for our Technical fest, ATMOS.
- **CRUx** :I am a part of CRUx the programming and computing club of our campus .

ACHIEVEMENTS

- In Univ.ai Hackathon I got an All India Rank of 360 and came 3rd in my campus