**HIMADRI SANKAR CHATTERJEE**

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**OBJECTIVE:**

Avid learner with the ability to quickly grasp the basics on any topic of interest. Learning new impactful technologies have always been a priority for me. Have been inclined to the field of artificial intelligence, especially deep learning, from the beginning of higher studies and worked on some interesting projects. I like to implement ideas that might be able to play an effect in our day-to-day lives. I also have a knack in competitive programming for providing innovative solution to given problems.

**SKILLS:**

Programming Languages: **Python, C, Java, C#**

Computer Vision Libraries (Python): **OpenCV, Pillow, SciPy**

Libraries for Machine Learning (Python): **NumPy, Pandas, Scikit-learn, TensorFlow, Keras (TensorFlow backend), PyTorch, Matplotlib, Gym, ML-Agents (Unity)**

Other Languages: **HTML, CSS, JavaScript, Node.js, MySQL**

**EDUCATION:**

* Don Bosco Bandel, Indian School of Certificate Examination 2004-2014
* Hooghly Collegiate School, West Bengal Council of Higher Secondary Education 2014-2016
* RKMRC, Narendrapur, Bachelors in Computer Science 2016-2019
* Vellore Institute of Technology, Masters in Computer Application 2019-2021

**Projects:**

* **Galaxy Zoo Classification Project**

Implemented a deep convolutional architecture (ResNet 18) to classify images of galaxy into 37 classes based on their given properties as obtained from crowdsourced volunteers. Achieved an accuracy of ~90%.

* **Crowd Behavior Analysis with Deep Learning**

This project was implemented to classify video footages of crowd into either violent or non-violent using the 3D convolutional architecture (C3D), with moderate accuracy.

* **Self-Driving Car Agent in a Custom Environment using Deep Reinforcement Learning**

Developed a custom environment in Unity and trained a car to traverse the environment effectively to reach its destination using reinforcement learning algorithms PPO and A2C.

* **Convolutional Neural Network from Scratch using TensorFlow**

Developed a simple CNN architecture, using TensorFlow, to classify the Extended-MNIST dataset with 92% accuracy

* **Movie and TV Show Dataset Analysis**

This project utilizes the BeautifulSoup web-scraping library in Python to extract information on the top movies from online sites and perform data analysis.

* **Kaggle Pulsar Star Prediction**

The final Project under the Machine Learning Crash Course organized by GDG, Kolkata, to implement a simple NN to classify a star as Pulsar or Non-Pulsar based on it features with 98.14% accuracy.

**Activities:**

* Content Writing Internship at TechGeekers for their online blog. A work-from-home internship.
* Participated in DevJams’19, a hackathon organized by DSC VIT, where we build an indoor navigation app in Android using ARCore.
* Attended the Machine Learning Crash Course organized by Google Developers Group, Kolkata to get an introduction in the field of Machine Learning.

**Hobbies:**

Reading books on the adventure and mystery genre, binge watching series, football and writing blogs on technical stuff.

**Additional Activities and Certificate:**

* Member of the ACM Chapter at VIT in the Research department.
* Selected for the Facebook Udacity Scholarship for the Secure and Private AI Challenge.
* Completed three courses of the Deep Learning Specialization in Coursera.
* Achieved a maximum 3-star rating in CodeChef.
* Helped in successfully organizing the prominent Code 2 Create hackathon, in VIT, from the ACM Chapter.
* Organized the first ever technical event under the Computer Science department of RKMRC, ENVISION.

**Additional Projects:**

* **Generating Anime faces using GAN**

Implemented a simple Generative Adversarial Network to generate faces of anime characters. It was a basic implementation, aimed at understanding the working of the network.

* **Securing AI with Federated Learning**

Implemented the Federated Learning technique in securing machine learning, as a project for the Secure and Private AI Scholarship challenge.