A REPORT ON

PARAM Shavak Deep Dive: Mastering Machine Learning

Date: 22nd March, 2024
Venue: EA - 803, Silver Oak University

PARAM Shavak Deep Dive:
Mastering Machine Learning

Introduction:

Silver Oak University IEEE Student Branch orchestrated a remarkable event titled **"PARAM Shavak Deep Dive: Mastering Machine Learning"**. This event was meticulously crafted to immerse participants into the intricate world of PARAM Shavak, delving into the realms of supercomputing. The primary aim of the event was to illuminate the prowess of ML algorithms and the transformative potential of computational power.

About the speaker:

The event was conducted by Mr. Divyesh Patel, an 8th-semester Computer Engineering student specializing in ML/AI. He holds a significant role as ML Geeks Club Lead and Advisory Student Board Member at Silver Oak University IEEE Student Branch.

About the session:

Date: 22nd March, 2024
Time: 11:00 AM to 01:30 PM
Venue: EA - 803, Silver Oak University
Participants: 40

Mr. Divyesh Patel warmly greeted attendees with enthusiasm as he expertly guided them through the intricate world of machine learning and its practical applications. Beginning with an insightful explanation of GPU, CPU, and PU, Mr. Patel then ventured into the domain of rendering, discussing its wide-ranging applications in photography, animation, and graphics.

Additionally, he delved into the details of the latest Nvidia chip release, contrasting it with Apple Silicon chips and emphasizing the specialized utility of Quadro chips for advanced workstation tasks. The discussion seamlessly moved towards machine learning algorithms, focusing on regression techniques including both logistic and linear models, illustrating their effectiveness in predictive modelling. The session touched upon the importance of RAM allocation and highlighted the critical aspects of time and space complexity, emphasizing their pivotal roles in achieving efficient computing practices.

Furthermore, the session moved onto discussing neural networks and the importance of GFLOPS by explaining their significance in computational power. He then delved into a comprehensive exploration of supervised learning principles, showcasing their practicality through examples such as stock market predictions and weather forecasting.

The session continued with a deep dive into the capabilities of PARAM Shavak's CUDA core, sharing insights from Lex Fridman's podcast, where Sam Altman, CEO of OpenAI, discussed the relationship between computation and wealth.

During the session, Mr. Patel showcased his project focused on enhancing image clarity and manipulating colours using libraries like matplotlib, offering practical perspectives. The discussions also delved into computer vision pipelines, covering various aspects such as image preprocessing, noise reduction, and post-processing techniques. He concluded the session by encouraging attendees to explore and read documentation, empowering them to delve deeper into the world of machine learning and computer vision.

Conclusion:

In conclusion, participants gained vibrant insights into various facets of machine learning, including processing, documentation, image manipulation, and the underlying hardware architecture. The session not only provided theoretical knowledge but also practical demonstrations, enriching attendees with valuable skills and understanding in the realm of machine learning and computer vision.

This event saw success under the essential guidance and support of Dr. Satvik Khara, Dean, Diploma Engineering, SOU; Head, Department of Computer Engineering, SOCET; IEEE Senior Member; Chairperson, SIGHT, IEEE Gujarat Section; Secretary, Computer Society, IEEE Gujarat Section; and Founding Member, Silver Oak University IEEE Student Branch.

Glimpses of the event:

Mr. Divyesh Patel commencing the session

Participants delving deeper in the supercomputing world

Mr. Patel sharing his expertise on ML algorithms

Group photo with all the participants