Dhruv Kumar

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EXPERIENCE

•ML Intern, ISRO - Indian Space Research Organization *July 2024*

Project: Multi-model ML Architecture for Automated Pulsar Detection SDSC SHAR, Andhra Pradesh, India · On-site

- Created a Pulsar Detector from their emission of fast radio bursts using machine learning for telescopic calibration.
- Trained Artificial Neural Networks (ANN) and Convolutional Neural Networks (CNN) on HTRU datasets.
- Achieved an **accuracy of 96%** and a **recall of 92%** using PyTorch.
- Developed a **multi-modal architecture** to create a more **optimized model** for detecting Pulsars.
- Tech Stack: Pandas, PyTorch, Scikit-Learn, Matplotlib, Seaborn, ANN, CNN.

•Micro Machine Learning Internship, USAR, GGSIPU *Aug - Sept 2023*

Project: Covid 19 Drug Design: Machine Learning for Inhibition Prediction Delhi, India · On-site

- Led a machine learning project focused on predicting inhibition potential of chemical compounds against COVID-19, utilizing a dataset of IC50 values for 104 molecules under the supervision of Dr. Mahesh Chand.
- Optimised the performance by **Hyperparameter Tuning** and Achieved a Low **MSE of 0.18**
- Tech Stack: Python, Pandas, Numpy, Scikit-Learn, Matplotlib, Seaborn.
- Github Link: github.com/SnookyDru/COVID-19_Drug_design

EDUCATION

•Bachelor of Technology in Artificial Intelligence and Machine Learning *Aug 2022 - July 2025*

University School of Automation and Robotics, GGSIPU EDC Surajmal Vihar, New Delhi, India

•Diploma in Computer Engineering *Aug 2017 - July 2020*

Ambedkar Institute of Technology Shakarpur, New Delhi, India

PERSONAL PROJECTS

•AI Text Summarization WebApp *June 2024*

Objective: An API first AI Text Summarization WebApp, quickly summarizes any lengthy article.

- Build a full stack app on Replit using HTML/CSS/JavaScript and Node.js.
- Integrated Hugging Face **Facebook BART Large CNN API** using Postman in the App.
- Source Code: replit.com/@pvtdhruvkumar/AI-Text-Summarizer-App

•Gears of Speed *Dec 2023*

Objective: An offline single player 3D Circuit Sprint Car Racing Game with a minimalistic User Interface.

- Designed the Levels of the game using Unity 3D Game Engine.
- Designed and a minimalistic theme based logo and the UI of the game using Adobe XD and Unity UI Editor.
- Coded the **Car controller, Automatic Opponent Cars, UI Manager Scripts** using C# and Unity Scripting API.
- Technology Used: Unity3D, C# Scripting, Adobe XD, Visual Studio
- Active Link: snookydru.itch.io/gears-of-speed
- Source Code: github.com/SnookyDru/Gears-of-Speed

•Face Detection using Viola Jones Algorithm *Feb 2024*

Objective: A Face Detector detects faces and eyes in real time

- Technology Used: OpenCV, Python
- Blog: medium.com/@pvt.dhruvkumar/viola-jones-algorithm-a-miracle-5e10085aba50

TECHNICAL SKILLS AND INTERESTS

Languages: Python, C++, HTML/CSS, Java, C#, SQL
Developer Tools: VS Code, Jupyter, Git, Visual Studios, PyCharm
Frameworks/Libraries: Pandas, NumPy, Scikit-learn, TensorFlow, Pytorch, Matplotlib, Seaborn, OpenCV, Node.js
Core Competencies: Machine Learning, Data Science, Deep Learning, Statistical Modelling, Predictive Analysis, Performance Optimization, Software Development Life Cycle, RESTfull API, Data Driven Solutions, Debugging, Data Structures and Algorithms, Image Processing and Computer Vision, Statistics for Data Science
Soft Skills: Analytical, Collaborator, Leader, Adaptable, Self-Motivated, Curious and Eagerness to Learn
Certifications: Postman API Fundamentals Student Expert

PUBLICATIONS

•1] Sai Venkata Surya punugoti, Dhruv Kumar, and Dr. Meena Vangalapati. A Study on Machine Learning Methods: Application for Amido black Dye Adsorption Prediction onto Green Algae Powder-Activated carbon. IJERT 2024, Paper ID: IJERTV13IS050153. Link: **https://www.ijert.org/machine-learning-methods-application-for-amido-black-dye-adsorption-prediction-on-to-green-algae-powder-activated-carbon**