

Saurav Kumar Roy

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EDUCATION

Amrita Vishwa Vidyapeetham, Amritapuri,

09/2023 – Present

Amrita Vishwa Vidyapeetham, Amritapuri

CGPA-8.27

OPEN SOURCE

Stingray

06/2024 – Present | Remote

- Replaced numpy.fft with scipy.fft to enhance computation speed of Fast Fourier Transform
- Added method to smooth a light cur

SunPy

06/2024 – Present | Remote

- Added method to retrieve spacecraft location from NASA's Satellite Situation Center API
- Implemented Solarnet client to fetch data from Solarnet Virtual Observatory

PROJECTS

JWST Light Curve and Spectral Analysis 🔗

◦ Plotted light curves and planet spectra of WASP-39b from James Webb Space Telescope's NIRSpec data using Astropy and Matplotlib, and confirmed the presence of carbon dioxide, water and other compounds using atmospheric retrieval

Diffusion-based poem generator 🔗

A diffusion-based text generator to generate poems The latent diffusion dataset was taken from Kaggle, and NVIDIA's Sana model was used to train the diffusion model

Get The Text 🔗

Built an LSTM and CTC model using PyTorch to extract text from images The dataset was made using the trdg library, which is a synthetic data generator

A Maze 🔗

Developed a maze-solving algorithm using reinforcement learning (Q-learning) where the maze was a randomly generated Numpy array with the first index and starting point, and the last one being the finish line. The algorithm was built using plain Numpy.

MolGan 🔗

Implemented MolGAN, a generative adversarial network (GAN) for small molecular graphs, using PyTorch. The model was trained to generate chemically valid compounds with desired properties by combining a GAN with a reinforcement learning objective..

Goldbach function approximation

Attempted to approximate the Goldbach function using machine learning techniques such as neural networks and curve fitting. The dataset was manually generated, and each number was converted into a feature vector of length 42 consisting of the number in binary, ternary, quaternary, log of the number, and a normalized version using a min-max scaler.

HACKATHON

Odoo hackathon, *Participant*

07/2025

Made Stacklit, a minimal question and answer platform that supports collaborative learning and structured knowledge sharing. It's designed to be simple, user-friendly, and focused on the core experience of asking and answering questions within a community.

VOLUNTEER EXPERIENCE

Clean-Up Drive Participant

Vallikavu, Kerala, 2024

Participated in a community clean-up drive around Vallikavu, Kerala, to promote environmental sustainability

SKILLS

Languages — C, Python, JavaScript, **Technologies** — Git, TensorFlow, PyTorch, Hugging Face Transformers, NumPy, SciPy, Matplotlib, Pandas, | Astropy, SunPy,linux