Krutarth Parmar

kayparmar.com | GitHub: kayo09 | HackTheBox Profile

Objective

Aspiring AI and full-stack professional with strong foundations in computing, cloud technologies, and machine learning. Experienced in research-based applications of AI in physics and biology, seeking to contribute to impactful tech-driven projects.

Education

Caltech CTME - Post-graduate Certificate in Machine Learning and Artificial Intelligence, 2023-2024

Brock University - Bachelor's Degree in Computing and Business, 2019-2023

Experience

Google Summer of Code Contributor - ML4SCI (Apr 2025 - Aug 2025)

Project: Discovery of Hidden Symmetries and Conservation Laws

- Designed ML models (VAE, MLP) to identify rotational symmetries in physics datasets

- Explored unsupervised methods to extract symmetry-based physical laws

- Analyzed latent space representations, extended models to high-energy datasets

- Collaborated with mentors from NISER and University of Alabama

Technologies: Python, PyTorch, TensorFlow, VAEs, GANs (planned), physics-informed ML

Skills

Languages: Python, Java, C, Bash

Cloud & DevOps: AWS, Linux, Docker, Kubernetes

Full-Stack: JavaScript, React, Node.js, Express, FastAPI, SQL, MongoDB, ExtJS, Vercel, Railway

AI/ML: TensorFlow, PyTorch, Scikit-learn, OpenCV, NLP, Computer Vision, Apache Spark, Databricks

Testing & Automation: Selenium

Certifications

- Oracle Certified Professional (ID: 305320167OCI2024GAIOCP)

- IBM Deep Learning using TensorFlow

- IBM Python for Data Science

- Kaggle Computer Vision

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Projects

Kaggle: Stanford RNA 3-D Folding

- Developed ML models to predict RNA structures

- Applied Transformers, Diffusion Models (DDPM) to bio-sequence data

- Tackled real-world noisy datasets and complex time-series problems

Tools: Python, Pandas, Scikit-learn, PyTorch

Extracurricular

- Ranked Top 15,000 - HackTheBox Season 5 (ID: kayo09 #1040164)

- Adani Half-Marathon Finisher