ABHIJEET SUTAR

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EDUCATION

MIT - World Peace University, Pune, India   **September 2021 – August 2022**
Post Graduate Diploma in Artificial Intelligence and Machine Learning   CGPA: 9.87
Relevant Courses: Artificial Intelligence, Deep Learning, Machine Learning with R, Data Analytics with R

Indian Institute of Technology Jodhpur, Jodhpur (IITJ), India   **July 2017 - May 2021**
Bachelor of Technology in Mechanical Engineering   CGPA: 6.79
Relevant Courses: C programming

ACADEMIC PROJECTS

Physics Informed Neural Network | Python, PyTorch, NumPy, Matplotlib
- Created and trained ResNet style neural network for the 1D Burger's Equation
- Implemented Fourier Feature Mapping of network inputs for 10x better accuracy.
- Evaluated the networks' results against 1D Finite Difference Method solver for the Burger's equation.

Emotion detection in Tweets – HackMITWPU 2022 | Python, Tensorflow
- Trained an NLP model to identify emotional content in a tweet. Achieved 88% accuracy using CNN–LSTM approach.
- Developed and presented potential business plan based on providing emotional analysis of tweets as a service.

CNN Image Classification | Python, Tensorflow, Matplotlib
- Setup a CNN network from scratch using keras layers. Implemented VGG network style CNN layer stacking.
- Achieved test accuracy of 78.4% on the CIFAR10 dataset.

Currency Exchange Rate Prediction | Python, Tensorflow, Matplotlib
- Trained a LSTM RNN to predict the exchange rate for INR and USD. Achieved a mean absolute error of 0.0354.

2D Finite Difference Method Simulation of Non-Newtonian Fluid | Python, NumPy, Numba, Matplotlib
- Developed a FDM solver for Non-Newtonian fluids. Validated the solver's results against known analytical solution.
- Discretized Cauchy Momentum equations and wrote functions to update local viscosity as per Truncated Power Law.
- Parallelized sections of the code for GPU acceleration using Numba, reducing computation time by a factor of 7.

Human Powered Vehicle Challenge 2019 (Asia – Pacific) | SolidWorks, Composite Manufacturing
- Designed and built a recumbent bicycle for the ASME HPVC with a team of 9 students.
- Designed an aerodynamic fairing in SolidWorks and fabricated it using Fiberglass-Polyester resin, increasing the top speed.
- Communicated with vendors for parts and supplies, and negotiated with them to procure parts at competitive prices.

TECHNICAL SKILLS

- Programming languages: Python, MATLAB, C, R, Java | Other Technology: Tensorflow, PyTorch, Qiskit, LaTeX
- Software: Ansys Fluent, Engineering Equation Solver, SolidWorks | Database: MySQL

LANGUAGES

Marathi – Mother tongue	English – Fluent
German – Intermediate	Hindi – Fluent

EXTRACURRICULAR ACTIVITIES

- Served as Vice-Captain of the Aeromodelling club of IITJ. Conducted Balsa wood glider making workshops and competitions and helped organize RC plane building workshops in 2018.
- Organized the technical festival Nimble (2018) as a Student Volunteer and co-hosted the opening ceremony for the festival.
- Worked on designing suspension geometry for an All-Terrain Vehicle as a member of the suspension design group of IITJ's SAE Baja team in 2018.
- Organized an institute-wide technical poster presentation event with a team of 5 student volunteers at IIT Jodhpur in 2019. Assisted in the setup of the space and posters for the same.