

# VED UMRAJKAR

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<https://github.com/Enforcer03>

## Education

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**Indian Institute of Technology Roorkee**

**Nov. 2021 - Till date**

*Bachelors in Mathematics and Computing*

*Roorkee, India*

## Skills

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- Deep Learning
- Machine Learning
- Data Structures
- Database Management
- Computer Vision
- NLP

## Experience

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**January – March 2023**

*Data Science Intern*

*Remote*

- Developed a CNN-based model in PyTorch to detect cracks in buildings efficiently
- Conducted extensive research and created a forecasting model using Recurrent Neural Networks (RNNs) and Long Short-Term Memory (LSTM) networks, with the intent of applying them to forecast energy and sensor data in the industry.
- Designed and developed a generic parser for '.ifc' files using an object-oriented architecture based on the open-source library ifcopenshell.
- Developed a preliminary data analyzer by integrating the seasonal and trend metrics of SARIMAX to improve the detection of anomalies in high-dimensional multivariate time series data.

[Certificate](#)

**Data Science Group, IIT Roorkee**

**November 2022 – Till date**

*Core Member*

*Roorkee, Uttarakhand*

- Created a Time-Series Forecasting Module for univariate and multivariate time series data.
- Developed a regression metric to devise confidence intervals of estimates efficiently.
- Created introductory projects on ensemble methods for classification and regression and statistical modelling of time series using ARIMA. [Acknowledgement](#)

## Projects

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**ForecastPro** | *Tensorflow, Statsmodels*

**December 2022**

- Tensorflow-based approach to handling single step forecasting with LSTMs and RNNs  
Link: [ForecastPro](#)
- Used an Object-Oriented approach to tackling univariate and multivariate Time-Series data. Curated models to forecast using LSTMs efficiently.

**GANs vs Mixture Models** | *PyTorch, Statsmodels*

**February 2023**

- Developed and implemented DCGAN and WGAN models, creating a versatile modular framework for improved accessibility as a part of a collaborative team effort.
- Utilized Gaussian Mixture Model (GMM) to generate images by sampling from the GM distribution.  
Link: [Implementation](#)

## Honors and Awards

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**Finalist, Amazon ML Challenge** | *17th in India*

**April 2023**

**Notebook Expert, Kaggle** | *Top 1% of all Experts on Kaggle, [Profile](#)*

**November 2022**

**JEE Advanced: All India Rank 1336** | *Top 0.2% of all candidates*

**October 2021**

**KVPY: All India Rank 342** | *Top 1% of all candidates*

**January 2021**

## Technical Skills

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**Languages:** Python, C++, SQL

**Developer Tools:** VS Code, Google Colab, GitHub, Kaggle

**Technologies/Frameworks:** PyTorch, TensorFlow, Numpy, Pandas, Sklearn, Statsmodels

## Extracurriculars

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- Hosted a 2-week long Data Science Hackathon- Beginner's Hypothesis on Kaggle as Junior Member at Data Science Group IIT Roorkee [Acknowledgement](#)
- Briefly worked as a Public Relations Executive at Cognizance(The technical fest of IIT Roorkee)