

Raghuwansh Raj

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• [LinkedIn](#) • [Github](#) • [Coding](#) • [Homepage](#)

EDUCATION

CentraleSupélec, ESSEC Business School, Paris, France Sep 2021 | Mar 2023
Double Msc in Data Science and Business Analytics CGPA: 15.35/20.00
• Conducted interdisciplinary research combining AI techniques in Finance , Marketing.

Indian Institute of Technology (IIT) BHU, Varanasi, India Jul 2016 | Jun 2020
Bachelor of Engineering: Mathematics CGPA: 8.60/10
• Courses and lab works from Mechanical and Electrical Engineering, Fluid Mechanics, Rock Mechanics, Mathematics, Computer programming, Machine Learning, Simulation Softwares(FLAC3D).

ACADEMIC EXPERIENCE

ESSEC Business Schhol Paris, France
Statistics Teaching Assistant (TA) Jan 2022 | Apr 2022
• Teaching Business Statistics to a class strength of 50 Pre Master Students.
• Topics covered during session were Linear Regression, Logistic Regression, K-means, PCA, LDA, Singular value Decompositions, Moments, Expectations and Central Limit Theorem.

Transvalor & CentraleSupélec Sophia Antipolis, France
corporate research (CRP) in masters Jan 2022 | Jun 2022
• Worked with Professor Francesca Bugioti and a mentor from Transvalor(Jose Alves), along with 5 talented team members during the Master's program.
• Implemented Graph Neural Network (GNN) based surrogate model for modelling FEA .The model aids in faster parameter search space exploration, particularly pressure and temperature. The accuracy accomplished was 99.3% on a set of 32 simulation data.

PUBLICATIONS

Preprint on arXiv
Graph Neural Network based surrogate model for Finite Element Analysis [paper](#)
• Developed Graph Neural Network based prediction model to act as a surrogate model for parameters search space exploration.
• Acknowledged for contributions to a paper submitted to the arXiv scientific repository under the mathematics category, assisted with data preparation, editing, and modeling experiment.

PROFESSIONAL EXPERIENCE

STELLANTIS Paris, France
Machine Learning Engineer (Full Time) Jun 2023 | **Present**
• Created end-to-end MLOps pipelines, software development practices for version control(git), class abstraction, optimised codes using Pyspark and mlflow in Databricks.

AMAZON

Paris France

Business Intelligence and Data Engineering (Internship)

Jul 2022 | Jan 2023

- Reduced the process time of forecast state for stakeholders by 50% by optimising code modules and deployed on the AWS cloud using EC2 and streamlit. Experience with AWS tools like Sagemaker, Quicksight, Redshift, Datanet etc.

ZESTMONEY

Bangalore, India

Data Scientist (Full time)

Jul 2020 | Aug 2021

- Worked within Credit and Risk Team in the domain of Buy Now Pay Later (BNPL). Implemented various financial models for assessing Lender risk, customer life time value, default score.

PROJECTS

• **Link Prediction in Citation Network**[GitHub](#)

(graph neural network, network science, graph theory, python). Predicted missing edges between citation network graph by extracting graphical, textual, and other semantic information. **Kaggle rank: 2.**

• **Twitter Sentiment on FTSE stocks**[GitHub](#)

(Evaluated the impact of Twitter posts of top 500 prominent accounts on UK FTSE index data. (NLP, VAR, timeseries))

• **Remote Sensing using deep learning techniques**[GitHub](#)

performed automatic annotations using pre trained deep learning model (UNet, PSPNet) for images acquired by a small UAV (sUAV) to solve image segmentation. **Kaggle rank: 11**

• **Tabular Data generation using CTGAN at Stellantis**[paper](#)

reviewed and presented research paper for Synthetic tabular data generation for tabular data (CTGAN) within the space of Vehicle Telematics and synthetic portfolios of driving data.

• **Covariance Matrix Adaptation (CMA) - ES Algorithm**[github](#)

A numerical optimization technique that is independent of derivative calculation, reviewed, forked and contributed to open source during class group project of advance optimization course.

SELECTED COURSES

Master's Courses

- # Foundations of Deep Learning
- # Advance Machine Learning
- # Graphical Models
- # Machine Learning in Network Science
- # Natural Language Processing
- # Reinforcement Learning
- # Financial Econometrics
- # Advanced Optimization

Bachelor's Courses

- # Engineering Mathematics
- # Probability and Statistics
- # Numerical Solution to PDEs
- # Finite Element Analysis
- # Fluid Mechanics
- # Mathematical Modeling and Simulation
- # Engineering Physics
- # Operation Research

CERTIFICATIONS

• **Quantum Mechanics**

IIT Kanpur

Cleared the exam for basics of Quantum Mechanics taught by HC Verma - [certificate](#)

• **Theory of relativity**

IIT Kanpur

cleared the exam for basics of special theory of Relativity taught by HC Verma - [certificate](#)

- **Deep Learning nanodegree**

Udacity

Cleared the udacity training for deep learning 4 month certification program - [certificate](#)

- **Computer Vision**

Coursera

Finished the basics of computer vision from buffalo university - [certificate](#)

SKILLS

- **Programming:** Python(Intermediate),Pyspark, C, C++(Intermediate),MATLAB, R, SQL.
- **Software:** Data Structures, Algorithms, Amazon Web Services(AWS), Putty, Docker, Git, Flask, Tensorflow, PyTorch, Tableau, EC2, S3, MS Office, Object Oriented Programming (OOP), Databricks.
- **Soft Skills:** Team Work, Communication, Time Management, problem Solving.

ACHEIVEMENTS

- **IIT JEE Examintaion**

Patna, India

Cleared the most sought engineering exam in India (0.7 % in 1.5M candidates)

May 2016

- **Music School - Prayag Raj Samhiti**

Varanasi, India

Acheived Diploma in TABLA(Classical based Percussion instrument in Indian Culture)

Mar 2014

REFERENCES

- **Prof. Guillaume Chevillon**

*ESSEC Business School, Paris, France*Scholar profiles: [Google Scholar](#) | [LinkedIn](#)

- **Prof. Fragkiskos D. Malliaros**

*professor at CentraleSupélec , Paris, France*Scholar Profiles: [Google Scholar](#) | [LinkedIn](#)

- **Prof. Subir Das**

*Mathematics Professor at IIT BHU, Varanasi, India*Scholar Profiles: [Google Scholar](#) | [HomePage](#)

- **Matteo Sammarco, PhD**

*Team Head Machine learning at Stellantis, Paris, France*Profile: [LinkedIn](#)*contact available on request.*