# REHAN KHAN

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"As a dedicated machine learning enthusiast, I am looking for an internship opportunity to further advance my exploration of the fascinating realm of artificial intelligence. Equipped with a solid grasp of machine learning and deep learning principles, I am enthusiastic about putting my knowledge into practice, gaining valuable insights from industry experts, and making meaningful contributions to impactful projects."

## EDUCATION

**Indian Institute of Technology, Delhi**
Btech in mechanical engineering
*2022 - Present* *CGPA - 8.4*

*Courses*
- MTL100 (Calculus)
- MTL101 (Linear Algebra and differential equations)
- COL100 (Introduction to computer science)

**VPS School, Kota**
12th (Central Board of Secondary Education)
*2022* *95.4%*

**St. Anselm North City School, Jaipur**
10th (Central Board of Secondary Education)
*2020* *95%*

## PROJECTS

**Portfolio Optimization with unsupervised learning**
• Utilized S&P 500 data from Oct 2016 to Sep 2023 for an optimized portfolio in Oct 2023 for daily returns, employing KMeans Clustering and comparing returns to actual S&P 500 data.
• Integrated Fama-French Factors and Rolling Factor Betas, optimizing portfolio weights with PyPortfolioOpt (EfficientFrontier) to maximize the Sharpe ratio.

**Neural Style Transfer Using Transfer Learning**
• Transferred learning from a pre-trained VGG-19 network used intermediate layers for high-level feature extraction
• Defined loss functions, included style matrix and optimized the model with gradient descent

**Chatbot Using Tensorflow and NLTK**
• Pre-processed data through tokenization and sentence padding.
• Created model for extracting intentions from imported sentences using embedding, pooling, and dense layers.
• The Chatbot interacted with users in a Colorama interface

## SKILLS

Python (Programming Language) | Machine Learning | Deep Learning | Tensorflow | RNN | CNN | NLP | LLM | Computer Vision | SolidWorks | Inventor

## ACHIEVEMENTS

Machine Learning Specialization (Andrew Ng) [Stanford - Coursera] (09/2023)
*Supervised Machine Learning : Regression and Classification, Advanced Learning Algorithms, Unsupervised Learning, Recommenders and Reinforcement Learning.*

Deep Learning Specialization (Andrew Ng) [Stanford - Coursera] (10/2023)
*Neural Networks and Deep Learning, Improving Deep Neural Networks : Hyperparameter Tuning, Regularization and Optimization, Structuring Machine Learning Projects, Convolutional Neural Networks, Sequence Models*

Applied Plotting, Charting & Data Representation in Python [University of Michigan - Coursera] (08/2023)

## OTHER EXPERIENCE

• Axlr8r Formula Racing (04/2023 - Present)
*Junior Engineer in Drivetrain department*

## LANGUAGES

English
*Professional Working Proficiency*

Hindi
*Native or Bilingual Proficiency*