# Haroon Naseer

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Machine Learning Engineer with experience in building and optimizing ML models, developing training UIs, and analyzing real-world datasets. Proficient in Python, PyTorch, and Scikit-learn. Skilled in creating interactive tools and deploying models to mobile using TFLite. Strong foundation in ML algorithms, and passionate about Explainable and Ethical AI.

## Experience

**Machine Learning Intern** | Scikit-learn, numpy, pandas at *InternzValley - February '24 - April '24* with projects:

1. **Heart Disease Classifciation**

- Enhanced model accuracy from 80% to 85%
- Precision increased from 0.78 to 0.85 (No Disease) and 0.82 to 0.86 (Disease)
- Recall boosted from 0.78 to 0.81 (No Disease) and 0.82 to 0.88 (Disease)

2. **Titanic data Analysis**

- Found correlation between ticket class and survival: 63% of 1st class, 48% of 2nd class, and 25% of 3rd class passengers survived
- Gender and survival rates: 73% of females and 20% of males survived
- Age group analysis: Higher survival for ages 0-10, lowest for ages 60-80

## Skills

- **Languages:** Python, C++, Java
- **Libraries:** Numpy, Pandas, Matplotlib, Scikit-learn, TensorFlow, PyTorch
- **Tools:** Jupyter Notebooks, Git, CLI
- **Interest:** Explainable AI, Ethical AI, AGI Research

## Projects

1. **Animal Classification** | Python, Tensorflow, PyQt5, and Flutter with Tflite for Android UI

- **Achieved 99.8% accuracy** using transfer learning with MobileNet v2 to classify images based on animal species.

2. **Image Classification Trainer UI** | Pyside6, Python, Pytorch, Torchviz, Captum

- **Developed Image Classification App**: Built a PySide app for model selection, training, inference, and Visualization using Saliency Maps and Model Graph.
- **Streamlined Model Workflows** by allowing for simple and quick training workflow for image classification

## Education

**B.Tech in Computer Science and Engineering**
*IUST Awantipora J&K*                                                                          *Autumn 2021 - 2025*

**Relevent Courses** : OOPS, Software Engineering, DSA, Operating Systems, DBMS, Computer Networks, Java Programming, Computer Architecture and Organisation, Artificial Intelligence, Soft Computing, Compiler Design, Applied Linear Algebra, Digital Image Processing, and Cryptography.

## Certifications

Google Data Analytics | Machine Learning Specialization | Deep Learning Specialization |
Explainable AI Specialization