

# KAINA SHAIKH

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## SKILLS

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- **Programming Languages** : Python | C++ | SQL | Bash Scripting
- **Tools & Libraries** : Numpy | Matplotlib | Sklearn | Pandas | Tensorflow | Pytorch | OpenCV | Streamlit | Git | Docker
- **Technologies** : Data Science | AI | Machine Learning | Deep Learning | Quantum AI | Power BI | Tableau

## EDUCATION

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**University of Pune**, Bachelor of Engineering in Artificial Intelligence and Data Science 2020-2024

- **GPA : 9.4 / 10** | Academic Topper

## EXPERIENCE

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### Defence Research and Development Organization (DRDO)

**Research Intern-Applied AI and Machine Learning**

**07/2023 - 12/2023**

- Led the team by working on the Defect Detection system using **Deep Learning**, improved the accuracy of the model from **87% to 98%**.
- Fine-tuned the **YOLOv8 algorithm** by implementing it by scratch and on grayscale images.
- Compared with existing algorithms and **increased accuracy** in the new approach by **11%**.

### Amazon

**Machine Learning Apprenticeship**

**07/2022 - 08/2022**

- Implemented core machine learning concepts, including **Reinforcement Learning**, **Recommendation Systems**, **Causal Inference**, and **Probabilistic Graphical Models**.
- Developed a **Book Recommendation System**, applying collaborative filtering and matrix factorization to suggest personalized book recommendations based on user preferences and behavior.
- Worked on **Supervised** and **Unsupervised Learning** techniques, including **Dimensionality Reduction** and **Deep Learning**, enhancing the accuracy of predictive models.

### Microsoft

**Microsoft ENGAGE Intern**

**05/2022 - 07/2022**

- Implemented **Face Recognition App** that works on various applications such as **Smart Attendance System**, **Face Emotion recognition** and **Twitter-posts security feature**.
- Focused mainly on building applications using pre-existing face recognition API by Microsoft Cognitive Services.
- Designed and developed android application integrating all the features using Microsoft Xamarin Forms.

## PROJECTS

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- **Cyclone Intensity Estimation** | Python , ML , Quantum AI , Streamlit
  - Developed a hybrid algorithm combining CNNs with Quantum Machine Learning, achieving **93% accuracy** and a **25% improvement** over traditional models **addressing issues of misclassification and skewness**.
  - Benchmarked new hybrid model against classifiers - **Random Forest**, **SVM** and **Decision Trees**.
  - Tested on **real-time** Naval Army Cyclone Infrared images and deployed as a **Streamlit web app**.
- **Brain Tumor Classification** | Python , Tensorflow , Sklearn , Deep Learning
  - Developed hybrid approaches using **EfficientNetB3+RF** and **VGG19+RF** for brain tumor classification on MRI images, achieving **93% accuracy** with VGG19+RF - a **4% improvement** over KNN+SVM.
  - **Feature extraction** was visualized using **t-SNE plots**.

## CERTIFICATIONS

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- **Google Data Analytics** - Coursera | [Link](#)
- **Machine Learning** - LinkedIn | [Link](#)
- **Complete Machine Learning, NLP, MLOps and Deployment** - Udemy | [Currently Learning]

## RESEARCH WORK & PUBLICATION

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- **Deep Learning based Defect Detection and Segmentation for High Energy Material Applications**, HEMCE, DRDO
- **Brain Tumor Classification using Transfer Learning and Ensemble Approach**, ICFEEC 2024 | [Link](#)
- **Benchmarking Traditional and Graph Neural Network Models for Node Classification in Literature Characters** | [Link](#)

## ACHIEVEMENTS

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- **Harvard WECODE Scholar** : Received Harvard Women Engineers Scholarship, WIT Conference, Jan '23.
  - **Google Women In Cloud Summit** : Host-participant, Cloud Summit, Google's Women Techmakers Community.
  - **Machine Learning Hackathon** : Successfully completed ML Hackathon by Leaps Analytica, Sept '21.
  - **Python Programming IIT Kharagpur** : Among top 10% from India to be selected for Python Event-All Youth Symposium.
  - **Qubit x Qubit by Microsoft** : Successfully completed the International Program, Quantum Machine Learning, Feb '23.
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