MOHAMMAD USMAN

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GENERAL INFO

I am currently working as a pre-doctoral researcher in the University of Barcelona's computer science department. In order to hone my skills as a researcher, I moved from Pakistan to Spain to contribute to international projects. I like taking on challenges, and working in the medical field allows me to satisfy my desire to work on complex problems while also serving humanity. I'd like to demonstrate my talent on a global scale. I hope to publish my findings soon and open new doors for future researchers.

EDUCATION SUMMARY

PhD in Computer Science,
Oct 2022 - Present

UNIVERSITY DE BARCELONA, Spain

- **Conducting research in a neuroscience project "HR21-00622 IN VIVO REPROGRAMMING TO RESCUE ALTERATIONS IN HUNTINGTON'S DISEASE" by Fundación la Caixa.**
- **Attempting to find answers using cutting-edge machine learning techniques.**

Master's in Computer Science,
Sep 2018 - Sep 2021

COMSATS UNIVERSITY ISLAMABAD, PAKISTAN

- **Major Courses:** Artificial Intelligence, Neural Networks, Computer Vision, Digital Image Processing, Game theory, Theory Of Computation, Algorithm Analysis, Research Methodology In IT
- **Thesis**: Evaluating transfer learning of transformers for medical imaging

Bachelor's in Computer Science,
Sep 2014- Sep 2018

The ISLAMIA UNIVERSITY BAHAWALPUR, PAKISTAN

- **Final Year Project:** Developed a Bug tracking system for Software development

EXPERIENCE

SLOSH AI Solutions

Sr. Machine learning Engineer. July 2021- Aug 2022

- Performed research and developed computer vision solutions for health care domain such as chest X-rays disease classification
- Actively engaged in AI software and algorithm design, development testing, and trouble-shooting
- Participated in meetings to showcase product developments efforts to investors.

Medical Imaging and Diagnostics Lab - NCAI

Research Assistant. Sep 2020- Jun 2021

- In MIDL, which is part of the National Center of Artificial Intelligence, I worked as a research scholar with a group of 35 researchers to develop computer vision solutions for chest X-ray disease classification.
- I was an active member of the Tuberculosis group, developing deep-learning models for medical images, particularly for domains where large datasets are difficult to attain.

Researcher at CUI

Research Associate. Feb 2020- Aug 2020

- Worked as a research scholar on the applications of Generative Adversarial Networks in the domain of distributed computer networks.
- Data generation using Deep learning techniques for networks.

THOSE

Software developer. Jan 2016 - Jan 2018

- Developed inventory systems
- Develop different Content management systems (CMS)
- http://those.com.pk/

PUBLICATIONS

- Mohammad Usman, Tehseen Zia, Ali Tariq" Analyzing Transfer Learning of Vision Transformers for Interpreting Chest Radiography**". Journal of Digital Imaging**

- Usman, M., Khan, Z. A., Khan, I. U., Javaid, S., & Javaid, N. (2019, November). Data Analytics for Short Term Price and Load Forecasting in Smart Grids using Enhanced Recurrent Neural Network. In 2019 Sixth HCT Information Technology Trends (ITT) (pp. 84-88). IEEE.

PROJECTS

- HR21-00622 IN VIVO REPROGRAMMING TO RESCUE ALTERATIONS IN HUNTINGTON'S DISEASE_ by Fundación la Caixa.
- Analyzing Transfer Learning of Vision Transformers for Interpreting Chest Radiography_ supported by the Higher Education Commission under National Center of Artificial Intelligence, Grant 2(1064)
- Vision transformer for medical image classification
- Image generation, inpainting, and style transfer using different generative adversarial networks (GANs).
- Medical image classification using ResNet and vanilla CNN-based models
- Image segmentation using Autoencoder and U-Net models
- LSTM model for sentiment analysis
- Transfer learning on different deep learning models.
- Time series data prediction using machine learning

SKILLS

- **Languages:** Python, C++, C#
- **Tools & Technologies:** Google Colab, Kaggle, PyCharm, Visual Studio, Jupyter, Spyder, LaTeX, Unity 3D, Microsoft Visio
- **Libraries:** Keras, Tensorflow, PyTorch, Matplotlib, Numpy, Pandas, Scikit-learn

CERTIFICATIONS

- Python Certification
- Computer Vision Certification
- Deep learning Certification

ACTIVITIES/ACHIEVEMENTS

- Attended Deep Learning Barcelona Symposium 2022
- Attended International Multi-Brain Barcelona Congress - Healthy, Pathological and Artificial Brain 2022
- Move from Pakistan to Spain in 2022 in order to participate in international Projects.
- Achieve multiple times Employee of the month award at SLOSH Ai Solutions.
- Represented SLOSH AI solutions at International women's day 2022 and showcased AI products in front of the president and First lady of Pakistan
- Participated in ICAI 2022 Conference as a representative of SLOSH and CBRL Lab,
- Win National Hepatitis C Hackathon with a Prize of 0.5 million PKR under SLOSH.
- Got a laptop as a prize from PM Laptop Scheme in 2015 for scoring high in BS (CS).

LANGUAGES

- English - Professional level proficiency
- Urdu - Native