Curriculum Vitae

M. FAWAD AKBAR KHAN

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EDUCATION

Utah State University, Logan, UT, USA – Ph.D. Computer Science – Keystroke Timeseries Analysis, Abstract Syntax Trees, Graph Neural Networks, Education Research
Aug 2021–Present

- CGPA: 3.87/4.00

University of Engineering & Technology Peshawar - M.S. Computer Systems Engineering
Sep 2018–Oct 2020

- CGPA: 4.00/4.00

University of Engineering & Technology Peshawar - B.S. Computer Systems Engineering
Aug 2014–Sept 2018

- CGPA: 3.1/4.00

Relevant Courses: Calculus I & II | Differential Equations | Probability and Statistics | Object-Oriented Programming | Database Management Systems | Signal Processing | Linear Algebra

WORK EXPERIENCE

Utah State University, Logan, UT, USA
August 2021- Present
Positions: GTA and GRA

University of Engineering and Technology Peshawar, Pakistan
April 2019- May 2021
Position: Research Associate
Conducting data mining of remote sensing data using cloud-based GIS tools for geological exploration. ***Copernicus Article on our Lab***
Technology Stack*:* Google Cloud Platform, GEE (Remote Sensing), Python

U.S-Pakistan Center for Advanced Studies in Energy – University of Engineering and Technology Peshawar, Pakistan
Aug 2018- March 2019
Position: Project Engineer
Prognosis and health-monitoring of Aircraft hydraulic systems using machine learning technique. Data analysis for a wind farm to detect anomalies.
Technology Stack*:* MATLAB, Tableau, Python

U.S-Pakistan Center for Advanced Studies in Energy – University of Engineering and Technology Peshawar, Pakistan
Aug 2017- March 2018
Position: Undergraduate Researcher
Data analysis of SCADA sensors data for hydro-power plants enhancement and prognosis
Technology Stack*:* MATLAB, Tableau, Python

PROJECTS

1. **Fairness in AI (GitHub):** A new framework based on the ROC curve and AUC measure to assess the individual fairness of probabilistic classifiers
2. **Reinforcement Learning Actor-Critic method for learning to fly a Quadcopter (GitHub):**

Solving the normal rotor and tilt-rotor environment of a quadcopter using actor-critic (A2C and A3C) methods using a 9-tail DQN.

3. **Developing Feasibility Analysis Model for Sustainable Development of Micro-Hydro Power Projects (GitHub):** Statistical analysis and ANN modeling of social and technical data**.**
4. **UETAcademy - An Online Education Platform**

LEADERSHIP EXPERIENCE & SOCIAL SERVICE

Founder and President – USUSA Filmmaking Club
Aug 2022 - Present
Co-Founder – Rethinker Media
June 2019 – present

- Film production company and social media network for entertainment.

Founder – Google Earth Engine (GEE) Tutorials Facebook Group
June 2019 – present
Research Fellow – Torque Communities
August 2020 – present

- Being part of a community of Research Fellows highly passionate about carrying out research and creating impact in the domain of policy and society.

Co-Founder and Executive Member – Chitra Engineering and Doctors Association
Feb 2016 – May 2021

TEACHING EXPERIENCE

- **Teaching Assistant Digital Logic Design Course** (CSE202) – Professor and Chairman **Dr Laiq Hasan**.
- **Teaching Assistant Social Media Mining** and **Introduction to Data Analysis** (CS 5890) – CS USU, USA
  Responsibilities: Conducting tutorials and training sessions | Managing Outcome Based Education Portal | Office hours | Designing and marking quizzes, assignments and projects.

HONORS AND AWARDS

- Graduate **Summa Cum Laude** with Masters's in Computer Systems Engineering
- **Merit-based** scholarship in Bachelor of Computer Systems Engineering
- **1st Position** in the Department of Computer Systems Engineering in the Entry Exam
- **2nd Position** in College and **3rd** in District – International Kangaroo **Mathematical Contest.**

OTHERS

- **Publication:**
  - **Khan, M.F.A;** Karimi, Hamid, **"A New Framework to Assess the Individual Fairness**
  - **of Probabilistic Classifiers**", 2022 21st IEEE International Conference on Machine Learning and Applications (ICMLA), https://conferences.computer.org/icmlapub/pdfs/ICMLA2022-1oIbEyrqlxdYNqIVuUdynF/628300a876/628300a876.pdf
  - **Khan, M.F.A**., et. al "Mapping Allochemical Limestone Formations in Hazara, Pakistan using **Google Cloud Architecture**", ISPRS Int. J. Geo-Inf. (Impact Factor: 2.239)
  - **"**Din, S.U.; Muhammad, K.; **Khan, M.F.A**., et. al." A Fusion of **Feature-Oriented Principal Components of Multispectral Data** to Map Granite Exposures of Pakistan. Appl. Sci. 2021, 11, 11486.
  - "Elahi, F.; Muhammad, K.; Din, S.U.; **Khan, M.F.A**.; et. al," Lithological Mapping of Kohat Basin in Pakistan Using Multispectral Remote Sensing Data: A Comparison of Support Vector Machine (SVM) and Artificial Neural Network (ANN). Appl. Sci. 2022, 12, 12147.
- **Proficient** in Python (Keras, Scikit-Learn, TensorFlow, PyTorch, Pandas, HuggingFace, OpenCV2), Google Cloud Platform, GEE, C++, SQL, Tableau.
- **Hobbies:** Skiing, Filmmaking, Pickleball, Workout/Fitness, Guitar, Hiking, Soccer, Cricket