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| **Name** | Abdul Samad |
| **Designation** | Associate professor |
| **Department** | Computer science |
| **Faculty** | Dhanani School of Science and Engineering |
| **Linkedin** | https://www.linkedin.com/in/abdul-samad-bb727533/ |
| **Github** | https://github.com/ASamadKhan |

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|---|---|---|
| | Personal | Asamad.khan@yahoo.com, samad19472002@gmail.com |

| **Telephone Number** | Office Extension | 081-111-717-111 ( 676 ) |
|---|---|---|
| | Mobile | +92 340-8308173 |

**Qualification**

August 2013     MS leading to PhD     University of Georgia, USA.          Computer Science

**Honors:**
Fulbright scholar

**Work Experience**

| S. No | From (year) | To (year) | Name of the Institution/ Organization | Position held |
|---|---|---|---|---|
| 1 | September 2006 | Dec 2008 | BUITEMS | Lecturer |
| 2 | September 2013 | July 2018 | BUITEMS | Assistant Professor |
| 3 | 2016 | July 2018 | BUITEMS | Graduate Coordinator |
| 4 | August 2018 | December 2022 | Habib University | Assistant Professor |
| 5 | December 2022 | Continuing | Habib University | Associate Professor |
| 6 | August 2021 | Continuing | Habib University | Program Director |
| 7 | August 2023 | Continuing | Habib University | Assistant Dean DSSE |

| **Grant** | • NCRA (Control Automotive robotics) 100 million PKR |
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- Predicting student performance at higher level using data mining techniques (2015)
- Summer Tehqiq 2022 : Exploring transformer for urdu language

**Publications**

- Hana Ali Rashid, Tasmiya Malik, Iqra Siddiqui, Neelma Bhatti, Abdul Samad
DYSIGN: Towards Computational Screening of Dyslexia and Dysgraphia Based on Handwriting Quality, IDC '23: Proceedings of the 22nd Annual ACM Interaction Design and Children Conference
- Fizza Rubab, Haania Siddiqui, Iqra Siddiqui, Abdul Samad : Poet Attribution of Urdu Ghazals using Deep Learning, 3rd International Conference of Artificial Intelligence (ICAI-23)
- Shafaq Fatima Mughal, Shayan Aamir, Samarah Asghar Sahto, Abdul Samad,: Urdu Music Genre Classification Using Convolution Neural Networks, accepted in 2nd International conference on emerging trends in smart technologies(ICETST)
- Muhammad Mobeen MOVANIA and Abdul SAMAD and Syeda Saleha RAZA:5 Exploring the Mozilla® Hubs® platform for Virtual Final Year Project Exhibition, MREdu2022: Mixed Reality for Education, Springer
- Syed Muhammad Fasih Hussain, Syed Muhammad Hamza, Abdul Samad,: Image Segmentation For Autonomous Driving Using U-Net Inception, 2022 7th International Conference on Signal and Image Processing (ICSIP)
- Adnan Ali Memon,Abdul Samad, Sikander Khan, Imran: Sindhi Parts of Speech Tagging Using Neural Networks. Balochistan Journal of Engineering & Applied Sciences (BJEAS) – (p-ISSN: 2518-2706) Volume 4, No. 1
- Nuzhat Khan, Muhammad Paend Bakht, Muhammad Junaid Khan, Abdul Samad, Gul Sahar :Spotting Urdu Stop Words By Zipf's Statistical Approach. 2019 13th International Conference on Mathematics, Actuarial Science, Computer Science and Statistics (MACS)
- Muhammad Aadil Siddiqui, Abdul Samad Khan and Gunawan Witjaksono: Classification of the factors for smoking cessation using logistic regression, decision tree & neural networks. AIP Conference Proceedings (2020); https://doi.org/10.1063/1.5142128
- Nuzhat Khan, Muhammad Paend Bakht, Muhammad Junaid Khan, Abdul Samad: Complex Network of Urdu Language. 2019 13th International Conference on Mathematics, Actuarial Science, Computer Science and Statistics (MACS)
- Junaid Baber, Varsha Devi Sachdeva, Maheen Bakhtyar, Abdul Samad:Facial Expression Recognition and Analysis of Interclass False Positives Using CNN. FICC 2019 in San Francisco
- Zain Nadeem, Abdul Samad, Zulkafil Abbas and Janzaib Masood: A Transfer Learning based approach for Pakistani Traffic-sign Recognition; using ConvNets. 2nd International IEEE ICECUBE 2018
- Gul Mina, Bakhtiar Kasi , Abdul Samad, Riaz UlAmin:Analysis of Twitter Usage in Educational Institutions of Pakistan. International Conference on Intelligent Technologies and Applications INTAP 2018
- Yousuf Khan, Abdul Samad Khan, Umer Iftikhar Mir, Surjeet Kumar, Naqeeb Ullah, Haider Ali, Muhammad Luqman Sarangzai and Muhammad Junaid Sultan:Mathematical Modeling of

Photonic Crystal based Optical Filters using Machine Learning. 2$^{nd}$ International IEEE ICECUBE 2018

- Liang Ding, Xingran Xue, Sal LaMarca, Mohammad Mohebbi1, Abdul Samad, Russell L. Malmberg and Liming Cai:Accurate Prediction of RNA Nucleotide Interactions with Backbone k-Tree Model. Bioinformatics (2015)
- Abdul Samad, Zahid Rauf, Liaquat Ali Chana, Barkat Hussain Jamali and Engr. Ahmed Farooq Bazai:Quality Education and Teachers' Evaluation: The role of a valid and reliable evaluative instrument. QCon'17, LUMHS, JAMSHORO
- Effects of Layers of Artificial Neural Networks for Locomotion Control of Snake Robots IEEC 2017 ( Held in NED University of Engineering Technology Karachi)
- Taqia Manzoor, Abdul Samad, Imran Qureshi: Automatic Detection of Tuberculosis in chest radiographs using machine learning IEEC 2017 ( Held in NED University of Engineering Technology Karachi)
- Janzaib Masood, Abdul Samad,  Zulkafil Abbas,  Latif Khan: Evolution of locomotion controllers for snake robots. Robotics and Artificial Intelligence (ICRAI), 2016 2nd International Conference
- Lubna Ayub, Abdul Samad, Sara Ayub: Differentiation of Blood Vessels in Retina into Arteries and Veins Using Neural Network. ICECUBE 2016
- Liang Ding, Abdul Samad, Xingran Xue, Xiuzhen Huang, Russell L. Malmberg, Liming Cai: Stochastic k-Tree Grammar and Its Application in Biomolecular Structure Modeling. LATA 2014: 308-322

- Liang Ding, Xingran Xue, Sal LaMarca, Mohammad Mohebbi, Abdul Samad, Russell L. Malmberg, Liming Cai:Ab initio Prediction of RNA Nucleotide Interactions with Backbone k-Tree Model.  CMSR@ECCB 2014: 25-42
- Liang Ding; Abdul Samad; Xingran Xue; Xiuzhen Huang, Liming Cai. Polynomial kernels collapse the W-hierarchy.arxiv August 2013


## Selected Undergraduate Projects Supervised

I have supervised many undergraduate capstone projects; I am listing few updated ones here.

- Mai: Transformer Based Domain Specific ChatbotFor Menstrual Health
- Developing Deep Learning based Screener for Pakistani Children's Handwriting for Signs of Dyslexia
- Raasta: An Automated Pothole detection system
- Nutrify: recipe based Pakistani nutrition recommender system




## MS thesis supervised

- Graph structure of all Pakistan's Accredited universities  (Mr.Arsalan ul-haq)
- Predicting smoking cessation among adults using machine learning techniques (Mr.Adil siddiqui)
- PREDICTION OF STUDENT'S PERFORMANCE IN B.A / B.SC, USING DATA MINING TECHNIQUES (Mr.Imam dad)
- Hypertensive Retinopathy Detection through Arteiovenous Ratio by Differentiation of Blood Vessels into Arteries and Veins (Ms. Lubna Ayub)
- Factors affecting mathematics performance among secondary schools students, a data mining approach (Mr. Sheikh Meer Ahmed )

- Improving Teachers Evaluation Using Machine Learning Algorithms (Mr.Barkat Jamali)
- Machine Learning helping in predicting Jaundice  (Mr. Owais Ahmed)
- Automatic Detection of Tuberculosis in Chest Radiographs using Machine Learning (Taqia Manzoor)

**Workshops attended:**

- CUDA and GPU programming workshop for 3-days in Univervsity of Georgia, 2013.
- One day training workshop in Karachi on NCEAC accreditation process (2017).
- Three day training workshop in Karachi on NCEAC accreditation process (2015).
- Participated in NCEAC 5th Program Evaluators Workshop at HEC Regional Center Karachi on April 8, 2019
- Data science boot camp 9-14 January 2017.
- Five days' workshop on  ASP-LUMS "Project management".
- One-day training workshop in Karachi on NCEAC accreditation process (2019).
- NYUAD Writing Workshops
- Transparency workshop Dr. Darryl Yong, August 2018
- Student Centered Design workshop, August 2018
- Co-creating Norms for the Online University Experience, July 2020
- Springing into Online Pedagogy, , July 2020
- Series of workshop on online teaching using Canvas, zoom, and Penepto, , August 2020
- Designing transparent syllabus, August 2020

**Workshops conducted:**

- 5-day training workshop on deep learning and its usage (BUITEMS-2018).
- Mathematics of Machine Learning (BUITEMS-2019)
- Designing Course Syllabi (BUITEMS- 30 December 2021)
- Prompt Engineering for Researchers and entrepreneurs (BUITEMS- 14 July 2023)
- Generative AI for improving Services (NIMS Quetta- Friday 23 June 2023)

**Other Activities:**

- "Mathematical Foundations of Machine Learning". June 20th , 2022. STEM Undergraduate Workshop sponsored by British Council Pakistan
- "HIGHER EDUCATION IN PAKISTAN: WHERE DO WE STAND?" penalist : Quetta Literary Festival 2022
- 2022 7th International Conference on Signal and Image Processing (ICSIP), Technical Program committee
- ICeCube 2017, Technical Program Committee
- NCEEAC Evaluator
- Technical committee member International Data Science Conference at MAJU
- Reviewer ICeCube 2019
- Delivered a talk on pytorch: Python Karachi meet up 27th October 2018
- Evaluator for Innovative and Collaborative Research Grant (ICRG) under Pak-UK Education Gateway
- Evaluator for Grand challenge fund HEC

- Reviewer ICoMT2020
- SIGCSE TS 2021 (PC member of Paper - Computing Education Research)
- IT and Cs board of study external member , University of Turbat.

**Certificates:**

- C++ programming for game developers  Game Institute([www.gameinstitute.com](www.gameinstitute.com))

# Udacity

- Nano-degree on self-driving car engineer (1 year) -continue

# EDX

- Fundamentals of Statistics (MIT)
- Probability, the science of Uncertainty and Data (MIT)
- Machine Learning with python-from linear models to deep learning (MIT)
- Scalable Machine Learning
- Big Data in Education
- Introduction to Big Data with Apache Spark
- Data Science and Machine Learning Essentials
- Statistical Thinking for Data Science and Analytics

# COURSERA

- AI for Everyone
- Applied Machine Learning in Python
- Introduction to Data Science in Python
- Big Data In Education
- Big Data Capstone Project
- Introduction to Big Data (2015)
- Hadoop Platform and Application Framework
- Introduction to Big Data Analytics (2015)
- Machine Learning With Big Data (2015)
- Graph Analytics for Big Data(2015)
- Machine Learning Foundations: A Case Study Approach
- Machine Learning: Regression
- Machine Learning: Classification
- Machine Learning: Clustering & Retrieval
- Mathematics of Machine Learning Linear Algebra
- Mathematics of Machine Learning Multivariable Calculus
- Matrix Algebra for Engineers

- Convolution Neural Network in TensorFlow
- Natural Language Processing in TensorFlow
- Natural Language Processing with Sequence Models
- Natural Language Processing with Probabilistic Models
- Natural Language Processing with Attention Models
- Sequences, Time Series and Prediction
- Introduction to TensorFlow for Artificial Intelligence Machine Learning and Deep Learning
- Neural Networks and Deep Learning
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks
- Sequence Model
- Introduction to Machine Learning in Production



- Statistical learning (Stanford)

# Short Courses

- ChatGPT prompt engineering for developers (deeplearning.ai)
- LangChain for LLM application development (deeplearning.ai)
- Hoe diffusion model works (deeplearning.ai)
- Building the system with ChatGPT API (deeplearning.ai)
- LangChain chat with your data (deeplearning.ai)
- Create image captioning models (GoogleCloud)
- Attention mechanism (GoogleCloud)
- Encoder decoder architecture (GoogleCloud)
- Transformer models and BERT Model (GoogleCloud)
- Introduction to image generation (GoogleCloud)
- Generative AI fundamentals (GoogleCloud)
- Introduction to responsible AI (GoogleCloud)
- Introduction to large language models (GoogleCloud)
- Introduction to Generative AI (GoogleCloud)

Reference:

| Name | Designation | Affiliation | Email |
|------|-------------|-------------|-------|
| Liming Cai | Professor | UGA Computer science | cai@cs.uga.edu |
| ROBERT W. ROBINSON | Professor | UGA computer science | rwr@cs.uga.edu |
| E. Rodney Canfield | Professor | UGA Computer Science | erc@cs.uga.edu |

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|---|---|---|---|
| Russell-malmberg | Professor | UGA Plant Biology | malmberg@uga.edu |