Rafiullah Khan, Ph.D. Visiting Fellow

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| ▼ Biographical SketchDr. Rafiullah Khan is currently working as Visiting Fellow at the Scholl of Computing, at Macquarie University. He has over 15 years of Teaching experience and over 8 years of research experience. He worked as a lecturer at ICS&IT, The University of Agriculture Peshawar, Pakistan, Preston University Peshawar Campus, Iqra National University Peshawar, Allama Iqbal Open University Peshawar, and Program Coordinator Lecturer at Farabi College Peshawar. He has received a Ph.D. Degree in Computer Science from Capital University of Science and Technology, Islamabad, Pakistan in 2020. He also served as a member of the Board of Studies, Purchasing Committee, Proctorial Board, and BS program coordinator at ICS/IT, the University of Agriculture Peshawar for 5 years. He supervised 17 Master's and over 80 bachelor's level students. He also proposed 3 new courses for Ph.D. and MS-level degrees, published over 25 research papers, and authored an edited book.▼ Personal and Contact Information LinkedIn: [www.linkedin.com/in/rafiullah-khan-49359a127/](http://www.linkedin.com/in/rafiullah-khan-49359a127/)  Research Gate: <https://www.researchgate.net/profile/Rafiullah-Khan-7>  Google Scholar: <https://scholar.google.com/citations?user=iHW8mAkAAAAJ&hl=en> |
| ▼ Research Interests **Privacy, Machine Learning, Data Science, Natural Language Processing, Networks, Internet of Things** ▼ Education  |  | | --- | | **PH.D. COMPUTER SCIENCE (Data Mining and Privacy) (CGPA 3.56/4.0)**  **Capital University of Science and Technology, Islamabad, Pakistan. 2020**  **Thesis Title:** [**On the Effectiveness of Private Information Retrieval Protocols**](https://cust.edu.pk/on-the-effectiveness-of-private-information-retrieval-protocols/) | | **MS Information Technology (Internetworking and Digital Communication) (CGPA 3.5/4.0)**  **Institute of Management Science, Peshawar, Pakistan.** **2010**  **Thesis Title:** Conceptual Frame Work of Multi-Bandwidth Link Aggregation | | **Bachelors (Hons) of Computer Science (CGPA 3.7/4.0)**  **Islamia College, University of Peshawar, Pakistan.** **2007**  **Thesis Title:** Performance Evaluation of Peshawar University Computer Network and Suggestions for Optimization | |
| ▼ Professional Education  * **Google Data Analytics 2023.** * **Cisco Certified Network Professional (CCNP) Switching 2009.** * **Cisco Certified Network Professional (CCNP) Routing 2008.** * **Cisco Certified Network Associate (CCNA) 2007.** |
| ▼ Teaching and Administrative Experience **May 2023 – Till date**   1. Visiting Fellow **•** School of Computing, Macquarie University, NSW.   **September 2011 – May 2023**   1. Lecturer **•** BS Program Coordinator **•** ICS&IT, The University of Agriculture Peshawar, Pakistan.   **January 2009– September 2011**   1. Lecturer • BCS Program Coordinator • Farabi College, Peshawar, Pakistan.   **May 2007 – December 2008**   1. Lecturer **•** Preston University, Peshawar Campus, Pakistan.   **February 2011 – September 2011**   1. Visiting Lecturer **•** Iqra National University, Peshawar, Pakistan.   **February 2009 – June 2009**   1. Visiting Lecturer **•** Allama Iqbal Open University, Peshawar Campus, Pakistan.  ▼ Projects  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Sno** | **Title** | **Abstract** | **Funding Party and Year** | **Amount of Fund** | **Status** | | 1 | 3D Virtual MMOG (Massively Multi-Player Online game) for Distance Learning  As PI | The power behind the virtual worlds is that sense of togetherness. 3D Virtual worlds have the potential to fulfill the wide gap between the face to face interactions, which is the richest form of communication we can experience and disembody form such as email, text, instant messages, even the telephone. We are increasingly seeing a blur between our offline and online selves, while today's learning curve is steep. Virtual worlds like Second Life and OpenSim etc., will promise a new era in human interaction and communication. The project aimed to create a Virtual Campus of the University of Agriculture Peshawar, which provides the students' facilities as mentioned earlier. | National ICT/R&D, Ministry of Information Technology, Government of Pakistan | Rs. 100,000/- | Completed  2014 | | 2 | Mobile Auction App for KP Agriculture Research Centers  As PI | Online auction sites are the "market places" where customers can participate in the online bidding process for a product over a specified period without temporal or spatial constraints. In Khyber Pakhtunkhwa (KPK), Pakistan, the auction of Agricultural products at Agricultural Research Stations is done using the traditional auction method. We built a smartphone app for Agricultural Research Stations of KPK that enables the users to take part in a bidding process without being physically available. Moreover, after bidding, the user has the option to pay online and or pay on delivery. This app will also keep user updates about new arrivals and future biddings. | National ICT/R&D, Ministry of Information Technology, Government of Pakistan | Rs. 100,000/- | Completed  2014 | | 3 | One-Click Rescue  As PI | In an emergency, people usually forget how to call for help and their whereabouts due to multiple reasons such as shock, trauma, and other reasons. We built the "One Click Rescue" app to solve this problem. This app will only take a type of emergency (such as medical, fire, hostage) from the person who needs help, and that is it. The smartphone will do the rest, such as 1. Contact the nearest emergency response center, 2. Sending location of the emergency using GPS, 3. Sending message to the specified closest relatives, and 4. Activate the silent profile of the smartphone in case of a hostage situation. | National ICT/R&D, Ministry of Information Technology, Government of Pakistan | Rs. 100,000/- | Completed  2015 | | 4 | ZAMINDAR DUKAN (Farmer's Shop) As PI  Proposed for Funding | Online Agricultural products marketing and Sales Smart Phone application for the farmer, smallholders, and Rural Women in Pakistan. | The University of Agriculture. | Rs. 1347000/- | **Proposed Project** | | 5 | Digital Marketing for The Vocationally Trained Progressive Farmers  As Co-PI.  Proposed for Funding | The project focuses on vocational trained women's job sustainability in their respective agricultural and nonagricultural fields. The issues that the vocationally trained women face are 1. Inaccessibility to market to sell their products. 2. Unjust reward of the labor of the skilled progressive farmers. 3. Lack of awareness of the skilled progressive farmers regarding digital technology in their fields. 4. Lack of availability of digital technology to the trained progressive farmers. | The University of Agriculture. | Rs. 1338000/- | **Proposed Project** | |
| ▼Conferences (Participated or Attended)  |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Sno** | **Conference Name** | **University** | **Venue** | **Year** | | 1 | Symposium on Emerging Technologies In Information Technology (ETIT) 2013 | The University of Peshawar. | Baragali Pakistan. | 2013 | | 2 | International Conference on Emerging Technologies (ICET) 2013 | Muhammad Ali Jinnah University, Islamabad. | Islamabad Pakistan. | 2013 | | 3 | International Conference on Innovating Computing Technology (INTECH) 2016 **(Participated)** | Islamia University Bahawalpur. | Islamabad Pakistan. | 2016 | | 4 | 4th International Conference on Biological and Computer Sciences (CBICS) 2016 **(Participated)** | Capital University of Science and Technology | Islamabad Pakistan. | 2016 | | 5 | Frontiers of Information Technology (FIT) 2016 | COMSATS Institute of Information Technology | Islamabad Pakistan. | 2016 | | 6 | International Conference on Emerging Trends in Engineering, Management and Sciences (ICETEMS) 2016 **(Participated)** | City University of Science and Technology | Peshawar Pakistan. | 2016 | | 7 | International Conference on Communication, Computing and Digital Systems (CCODE) 2017 **(Participated)** | Bahria University Islamabad. | Islamabad Pakistan. | 2017 | | 8 | International Conference on Emerging Technologies (ICET) 2017 | Capital University of Science and Technology. | Islamabad Pakistan. | 2017 | | 9 | International Conference on Computing Technologies, Tools and Applications (ICTAPP-23) 2023. **(Keynote Speaker, Organizer, Reviewer)** | ICS/IT, The University of Agriculture Peshawar. | Peshawar Pakistan | 2023 | |
| ▼ Graduated MS Students  |  |  |  |  | | --- | --- | --- | --- | | **Sno** | **Student Name** | **Thesis Title** | **Year** | | 1 | Faiz ur Rahman | Evaluation Of Non-Fading Propagation Models Over A Reactive Based Routing Protocol In Ad Hoc Networks | 2013 | | 2 | Misbah Daud | Roman Urdu Opinion Miner: An Opinion Based Customer Decision Support System | 2014 | | 3 | Jamila Khan | Impact Of Node Density On The Performance Of DSR And FSR Using Random Way Point Mobility Model. | 2015 | | 4 | Fakhra Khan | Handling Agriculture Products Auction Activity Of Khyber Pakhtunkhwa Research Stations For Mobile Users | 2015 | | 5 | Emran Thabet | Analyzing Political Situation From Social Network Reviews Of Yemeni People Using Data Mining Techniques | 2018 | | 6 | Maria Noor | Performance Evaluation Of Mobility Models In DTN With Dense And Sparse Mode | 2018 | | 7 | Shafiullah | Analysis Of Temporal Interest Of America Online (AOL) User Based On Web Search History | 2019 | | 8 | Ibad Jan Babu | A Proposed Mechanism For Domain-Based Text Classification Using Terms Similarity Score | 2019 | | 9 | Basheer Ahmad | Rainfall Prediction Using Chaotic Bat Back Propagation Algorithm | 2019 | | 10 | Haidar Zaman | Feature-Based Sentiment Analysis Spam Detection Of Roman Urdu Reviews | 2019 | | 11 | Maneela Shaheen | Automatic Classification Of Acute Myeloid Leukemia (AML) Using Convolution Neural Network | 2021 | | 12 | Shabana Gul | A Novel Framework For Detection Of Scripted Urdu Sarcastic Opinions From The Twitter | 2022 | | 13 | Roman Aftab | TIP Rank: Twitter Influential Person Ranking | 2022 | | 14 | Muhammad Kashif | Cluster Head Optimization Technique in Heterogeneous Wireless Sensor Network | 2022 | | 15 | Sajjad Ullah Khan | Optimization technique for the scheduling of Home appliances considering demand side management | 2022 | | 16 | Ijaz Ahmad | Covid-19 Infection Detection in Chest X-Ray Images Using Resnet50-Based Transfer Learning Approach | 2022 |  ▼ Communication  |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Sno** | **Language** | **Speaking** | **Reading** | **Writing** | | 1 | English | Good | Good | Good | | 2 | Urdu | Good | Good | Good | | 3 | Hindi | Good | Poor | Poor | | 4 | Pashto | Good | Average | Average | | 5 | Hindko | Average | Poor | Poor | | 6 | Panjabi | Average | Poor | Poor | |
| ▼ Publications **Journal Publications**   1. S. Zahir, **Rafi Ullah Khan**, M. Ullah, M. Ishaq, N. Dilshad et al., "Robust Counting In Overcrowded Scenes Using Batch-Free Normalized Deep Convnet," Computer Systems Science and Engineering, vol. 46, no.3, pp. 2741–2754, 2023. **(4.397 Impact Factor).** 2. Sana Zahir, Arbab Waseem Abbas, **Rafi Ullah Khan**, Mohib Ullah (2023). Vision Sensor Assisted Fire Detection in IoT Environment using ConvNext. Journal of Artificial Intelligence and Systems, 5, 23–35. https://doi.org/10.33969/AIS.2023050102. 3. Akbar, M, Ullah, M, Shah, B, **Rafi Ullah Khan**, Hussain, T, Ali, F, Alenezi, F, Syed, I, and Kwak, K. “An Effective Deep Learning Approach for The Classification of Bacteriosis in Peach Leave”. Frontiers in Plant Science, Vol 13, Nov 2022. **(6.627 Impact Factor).** 4. Al-Buraihy, E, Dan, W, **Rafi Ullah Khan**, and Mohib Ullah. “An ML-Based Classification Scheme for Analyzing the Social Network Reviews of Yemeni People”. International Arab Journal of Information Technology Vol: 16, No. (6) November 2022. **(0.967 Impact Factor)** 5. Gul, Shabana, **Rafi Ullah Khan**, Mohib Ullah, Roman Aftab, Abdul Waheed, and Tsu-Yang Wu. "Tanz-Indicator: A Novel Framework for Detection of Perso-Arabic-Scripted Urdu Sarcastic Opinions." Wireless Communications and Mobile Computing 2022 (2022). **(2.146 Impact Factor).** 6. Ullah, Mohib, **Rafi Ullah Khan**, Irfan Ullah Khan, Nida Aslam, Sumayh S. Aljameel, Muhammad Inam Ul Haq, and Muhammad Arshad Islam. "Profile Aware ObScure Logging (PaOSLo): A Web Search Privacy-Preserving Protocol to Mitigate Digital Traces." Security and Communication Networks 2022. **(1.791 Impact Factor)**. 7. Ihsan, Imran, Mohib Ullah, **Rafi Ullah Khan**, et al. "SEAL: Semantically Enriched Authoring in LATEX—A Model for Scientific Discourse." IEEE Access 10 (2022): 13525-13535. **(4.06 Impact Factor)**. 8. Farooq, Umer, Mohib Ullah, **Rafi Ullah Khan**, et al. "IDBR: IoT Enabled Depth Base Routing Method for Underwater Wireless Sensor Network." Journal of Sensors 2021 **(3.576 Impact Factor)**. 9. Khan IU, **Khan Rafiullah**, et al. “Remote Diagnosis and Triaging Model for Skin Cancer Using EfficientNet and Extreme Gradient Boosting,” Complexity, vol. 2021, 2021. **(2.462 Impact Factor)**. 10. Ullah M, **Khan Rafiullah**, et al. “Multi-Group ObScure Logging (MG-OSLo) A Privacy-Preserving Protocol for Private Web Search”, Journal: IEEE Access. **(4.06 Impact Factor)**. 11. Shaheen M, **Khan Rafiullah**, Biswal R R, Ullah M, Khan A, Irfan M, “Acute Myeloid Leukemia (AML) Detection Using AlexNet Model” Journal: Complexity. **(2.462 Impact Factor)**. 12. Ullah R, Abbas A W, Ullah M, **Khan Rafiullah**, Aslam N, Aljameel S, Ullah I. “EEWMP: An IoT Based Energy Efficient Water Management Platform for Smart Irrigation”, Journal: Scientific Programing. **(0.963 Impact Factor)**. 13. **Rafiullah Khan**, Mohib Ullah, Atif Khan, Muhammad Irfan Uddin, Maha Al-Yahya, "NN-QuPiD Attack: Neural Network-Based Privacy Quantification Model for Private Information Retrieval Protocols," Complexity, vol. 2021, 2021. **(2.462 Impact Factor)**. 14. Haq, N. U., Ullah, M., **Khan, Rafiullah**, Ahmad, A., Almogren, A., Hayat, B., & Shafi, B. (2020). USAD: An Intelligent System for Slang and Abusive Text Detection in PERSO-Arabic-Scripted Urdu. Complexity, 2020. **(2.462 Impact Factor)**. 15. Ahmad, Y., Ullah, M., **Khan, Rafiullah**, Shafi, B., Khan, A., Zareei, M., & Mohamed, E. M. (2020). SiFSO: Fish Swarm Optimization-Based Technique for Efficient Community Detection in Complex Networks. Complexity, 2020. **(2.462 Impact Factor)**. 16. **Khan, Rafiullah**, et al. "QuPiD Attack: Machine Learning-Based Privacy Quantification Mechanism for PIR Protocols in Health-Related Web Search." Scientific Programming (2020). **(0.963 Impact Factor)**. 17. **Khan, Rafiullah**, Islam, M. A., Ullah, M., Aleem, M., & Iqbal, M. A. (2019). Privacy Exposure Measure: A Privacy-Preserving Technique for Health-Related Web Search. Journal of Medical Imaging and Health Informatics, 9(6), 1196-1204. **(0.659 Impact Factor)**. 18. Ullah, M., Islam, M. A., **Khan, Rafiullah**, Aleem, M., & Iqbal, M. A. (2019). ObSecure Logging (OSLo): A Framework to Protect and Evaluate the Web Search Privacy in Health Care Domain. Journal of Medical Imaging and Health Informatics, 9(6), 1181-1190. **(0.659 Impact Factor)**. 19. Shah, S., Saeed, K., Khan, M., Khan, **Khan, Rafiullah**, M. U., Daud, M., & Abbas, A. W. (2018). Minimization of Information Asymmetry Interference using Partially Overlapping Channel Allocation in Wireless Mesh Networks. International journal of advanced computer science and applications, 9(8), 626-634. 20. Daud, M, **Khan, Rafiullah**, & Daud, A. (2015). Roman Urdu opinion mining system (RUOMiS). Computer Science & Engineering: An International Journal (CSEIJ). 4(5/6), 1-9. 21. **Khan, Rafiullah**, & Ali, S. (2013). Conceptual Framework of Redundant Link Aggregation. Computer Science & Engineering: An International Journal (CSEIJ). 3(5), 23- 31.   **Conference Publications**   1. Ullah H, Bangash J I, Rahman J U, **Khan Rafiullah**, Khan A W, Din R U. IoT Based Indoor Monitoring Framework to Reduce the Effects of Passive Smoking, International Conference on Computing Technologies, Tools and Applications (ICTAPP-23) 2023. 2. Ullah S A, Ullah M, **Khan Rafiullah**, Ullah K, Ahmad Y, Rehman A U. Educational Data Mining: A Comparative Study to Predict Student Academic Performance Using Deep Neural Network and Other Machine Learning Techniques, International Conference on Computing Technologies, Tools and Applications (ICTAPP-23) 2023. 3. Ullah S A, Abbas A W, Ullah M, **Khan Rafiullah**, Rehman A U. Unveiling the Power of Deep Learning: A Trailblazing Review on Different Techniques used for Medical Image Segmentation Analysis, International Conference on Computing Technologies, Tools and Applications (ICTAPP-23) 2023. 4. Ali I, Nawaz S, Ullah M, **Khan Rafiullah**, Tariq M, Din I U, Khan A, Khalil G R, Khan M. Software Cost Estimation: A Comparative Study of COCOMO-II, Halstead and IVR Models. International Conference on Computing Technologies, Tools and Applications (ICTAPP-23) 2023. 5. Siddique M, **Khan Rafiullah**, Ullah M, Tamimy M I, Haris M. Speech Emotion Recognition using Diffusion Map- Based Machine Learning with Classification Technique. International Conference on Computing Technologies, Tools and Applications (ICTAPP-23) 2023. 6. **Khan, Rafiullah**, & Islam, M. A. (2017, March). Quantification of PIR protocols privacy. In 2017 International Conference on Communication, Computing and Digital Systems (CCODE) (pp. 90-95). IEEE. 7. **Khan, Rafiullah**, Ullah, M., & Islam, M. A. (2016, August). Revealing PIR protocols protected users. In 2016 Sixth International Conference on Innovative Computing Technology (INTECH) (pp. 535-541). IEEE. 8. Ullah, M., Khan, **Khan, Rafiullah**, & Islam, M. A. (2016, August). Poshida, a protocol for private information retrieval. In 2016 Sixth International Conference on Innovative Computing Technology (INTECH) (pp. 464-470). IEEE. 9. Ullah, M., Khan, **Khan, Rafiullah**, & Islam, M. A. (2016, December). Poshida II, a Multi-Group Distributed Peer to Peer Protocol for Private Web Search. In 2016 International Conference on Frontiers of Information Technology (FIT) (pp. 75-80). IEEE. 10. **Khan, Rafiullah**. (2016, December). De-Anonymizing User of Web and Social Network. In 4th International Conference on Biological and Computer Sciences (C-BICS 2016). 11. Khan, S, Ullah, M & **Khan, Rafiullah**. (2016, December) The Performance Evaluation of MANET Protocol under varying Pause time and Simulation Area. In 2nd International Conference on Emerging Trends in Engineering, Management and Sciences. 12. Naz, J, **Khan, Rafiullah** & Ullah, M. Impact Assessment of Node Density over FSR and DSR. (2016, December) The Performance Evaluation of MANET Protocol under varying Pause time and Simulation Area. In 2nd International Conference on Emerging Trends in Engineering, Management and Sciences.   **Journal Research Papers (Under Review)**   1. Cidicxr-Net50: Deep Transfer Learning Based Model for Detection of Covid-19 In Chest X-Ray Image: Journal: Scientific Reports. 2. Connected Research: An Ontological Model for Scientific Discourse in Scholarly Knowledge Graphs. Journal: PLoS One. 3. Reason to Cite: A Qualitative Analysis of Citations’ Context and Reasons. Journal: IEEE Access.   **Book Chapter**   1. Javeed, D., Gao, T., Saeed, M. S., **Khan, R. U.**, & Jamil, Z. (2023). SDSCCM: Secure Distributed System Communication for Cloud-Based Manufacturing. In Protecting User Privacy in Web Search Utilization (pp. 200-214). IGI Global. 2. **Khan, Rafi Ullah**, Mohib Ullah, and Bushra Shafi. "Web Search Privacy Evaluation Metrics." Protecting User Privacy in Web Search Utilization. IGI Global, 2023. 46-62. 3. **Khan, Rafi Ullah**, et al. "A Survey on Performance Evaluation Mechanisms for Privacy-Aware Web Search Schemes." Protecting User Privacy in Web Search Utilization. IGI Global, 2023. 26-45. 4. **Khan Rafiullah**, et al. "Knocking at Alternate Doors: Survey of Android-Based Smartphone Applications for Alternate Medicines." Mobile Devices and Smart Gadgets in Medical Sciences. IGI Global, 2020. 22-38.   **Books**   1. **Khan, Rafi Ullah**, ed. Protecting User Privacy in Web Search Utilization. Hershey, PA: IGI Global, 2023. https://doi.org/10.4018/978-1-6684-6914-9  ▼ Programing Languages, Tools and Technologies C, Java, R, Python, WEKA, SQL, XML, RDF, Cisco IOS (Routers, Switches, Firewalls), LaTeX, Microsoft Office. ▼ References  1. **Dr Xuyun (Sean) Zhang**, ARC DECRA Research Fellow, Senior Lecturer, Course Director for Cyber Security School of Computing, Faculty of Science and Engineering Macquarie University, Sydney, NSW 2109, Australia Email: [xuyun.zhang@mq.edu.au](mailto:xuyun.zhang@mq.edu.au), Ph: +61 02 9850 8229 2. **Dr. M. Arshad Islam (PhD Supervisor)**, Associate Professor, Department of Computer Science, National University of Computer and Emerging Sciences, Islamabad, Pakistan. Phone: +92-3335046468, Email: [arshad.islam@nu.edu.pk](mailto:arshad.islam@nu.edu.pk) 3. **Dr. Muhammad Aleem**, Professor, Department of Computer Science, National University of Computer and Emerging Sciences, Islamabad, Pakistan. Phone: +92-324-9622382, Email: m.aleem@nu.edu.pk 4. **Dr. Awais Adnan (MS Supervisor)**, Assistant Professor and Director ORIC, Institute of Management Sciences, Peshawar, Pakistan. Phone: +92-333-9129742, Email: awais.adnan@imsciences.edu.pk |