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Assistant Professor,
Department of IT & Computer Science,
Pak-Austria Fachhochschule: Institute of Applied
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Academic Qualifications

Ph.D. Computer Science & Technology
(Specialization: Software Engineering)
Beijing Institute of Technology,
Beijing, China.

July 2018

MS Software Engineering
Blekinge Tekniska Hogskola (BTH),
Ronneby, Sweden.

December 2008

Bachelor of Computer Science
Department of Computer Science, University of Peshawar,
Pakistan.

May 2006

Teaching/Research Experience

1. Assistant Professor (October 2020 – Till Date)

Description: I am currently working as an **Assistant Professor of Computer Science & Software Engineering** in the Department of IT & Computer Science at **Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology, Haripur, Pakistan** (<https://www.paf-iast.edu.pk/>). Along with research I am also responsible for teaching software engineering courses to undergraduate level.

2. Assistant Professor (September 2020 – October 2020)

Description: I have worked as an **Assistant Professor of Software Engineering/Computer Science** in Department of Computer Science at **City University of Science & Information Technology, Peshawar, Pakistan** (<http://www.cityuniversity.edu.pk>). Along with research I was also responsible for teaching software engineering courses to graduate and undergraduate level e.g. Programming Languages, Requirements Engineering, Software Project Management, etc.

3. Assistant Professor (March 2019 – September 2020)

Description: I have worked as an **Assistant Professor of Computer Science** in the Department of Computer Science, **University of Swabi, K.P.K., Pakistan** (<http://www.uoswabi.edu.pk/>). I am also **BS-CS program coordinator**. Along with research and teaching I am an active member of departmental committee of BS-CS program accreditation and providing support in several other administrative tasks.

4. Assistant Professor (August 2018 – February 2019)

Description: I have worked as an **Assistant Professor of Software Engineering/Computer Science** in Department of Computer Science at **City University of Science & Information Technology, Peshawar, Pakistan** (<http://www.cityuniversity.edu.pk>). Along with research I was also responsible for teaching software engineering courses to graduate and undergraduate level e.g. Programming Languages, Requirements Engineering, Software Project Management, etc.

5. Researcher (September 2014 - July 2018)

Description: I worked as a **PhD researcher** at School of Computer & Technology, **Beijing Institute of Technology, China**. I mainly did research in the area of software requirements engineering. To be more specific I did research in extracting, identifying and comprehending software requirements on question and answering forums. Moreover, during this tenure I have published several papers in well reputed journals and conferences.

6. Research Assistant (October 2011 - April 2014)

Description: I worked both as a **Teaching & Research Assistant** at **Institute of Computer Technology (ICT), TU Vienna, Austria**. I mainly worked as a teaching assistant. The tasks as teaching assistant included mainly teaching and conducting exercises and exams for two courses. In addition to performing teaching activities I also performed voluntarily some administrative activity in managing our department library. As a research assistant I was involved in one project named Business Process-Driven Automated Software Reuse (ProREUSE). The goal of this project is to develop an approach for software reuse where both the process of software development, as well as resulting business software is driven by business process models. I also provided help in writing research proposals for different national and international research project calls.

7. Research Assistant (May 2010 - October 2011)

Description: I worked as a research assistant in Quamoco project (<https://quamoco.in.tum.de/>) at **Fraunhofer Institute of Experimental Software Engineering Kaiserslautern, Germany** (<http://www.iese.fraunhofer.de>). The aim of the project was to develop a quality standard applicable in practice that can be used to objectively define, review and permanently maintain software quality. I mainly worked in the area of quality models for software requirements and design phase of software development life cycle. Moreover, the purpose of the software requirements specifications/design quality area was to define and establish a quality model for software requirements/design that subsequently can be used in order to control, manage, and predict the quality of the written requirements specifications/ produced design.

Administrative Experience

1. **BS Coordinator** (BS-CS) at Department of Computer Science, University of Swabi, Pakistan
2. Curriculum designing of BS Data Science, Artificial Intelligence & Bio-Informatics programs
3. Member of BS & MS thesis defense/examination committee
4. Organized and Co-Chaired Conferences and Workshops.
5. Member of Quality Enhancement Cell

Publications

Journals:

1. **A. Ahmad**, K, Li, C. Feng, S.M. Asim, A. Yousif, S. Ge, "An Empirical Study of Investigating Mobile Application Development Challenges", Vol. 6, Issue: 1, pp. 17711-17728, IEEE Access, 2018, <https://doi.org/10.1109/ACCESS.2018.2818724> (**SCI Journal, IF=4.098**).
2. **A. Ahmad**, C. Feng, S. Ge, A. Yousif, "A survey on mining Stack Overflow: Question and Answering (Q&A) Community", Vol. 52 Issue: 2, pp.190-247, Data Technologies and Applications, Emerald, 2018, <https://doi.org/10.1108/DTA-07-2017-0054> (**SCI Journal, IF=1.170**).
3. A. Yousif, Z. Niu, J.K. Tarus, **A. Ahmad**, "A survey on sentiment analysis of scientific citations", pp. 1-34, Artificial Intelligence Review, Springer, 2017, <https://doi.org/10.1007/s10462-017-9597-8> (**SCI Journal, IF=5.095**).

4. **A. Ahmad**, C. Feng, K. Li, S.M. Asim, T. Sun, "Towards empirically investigating non-functional requirements of iOS developers on Stack Overflow", Vol. 7, Issue: 1, pp. 61145-61169, IEEE Access, 2019, <https://doi.org/10.1109/ACCESS.2019.2914429> (SCI Journal, IF=4.098).
5. F. Chong, M. Khan, A. Khan, **A. Ahmad**. "News recommendation systems- Accomplishments, Challenges & Future directions", vol.8, pp. 16702-16725, IEEE Access, 2020, <https://doi.org/10.1109/ACCESS.2020.2967792> (SCI Journal, IF=4.098).
6. A. Khan, H. Zhang, J. Shang, N. Boudjellal, **A. Ahmad**, A. Ali, "Predicting Politician's Supporters' Network on Twitter Using Social Network Analysis and Semantic Analysis", Scientific Programming, 2020, <https://doi.org/10.1155/2020/9353120> (SCI Journal, IF=1.289).
7. R. Khan, **A. Ahmad**, et al. "QuPiD Attack: Machine Learning-Based Privacy Quantification Mechanism for PIR Protocols in Health-related web search", Scientific Programming, 2020, <https://doi.org/10.1155/2020/8868686> (SCI Journal, IF=1.289).
8. C. Feng, M. Adnan, **A. Ahmad**, A. Ullah, H.U. Khan, "Towards energy efficient framework for IoT big data health-care solutions" Scientific Programming, 2020, <https://doi.org/10.1155/2020/7063681> (SCI Journal, IF=1.289).
9. N. Boudjellal, H. Zhang, A. Khan, **A. Ahmad**. "Biomedical Relation Extraction Using Distant Supervision" Scientific Programming, 2020, <https://doi.org/10.1155/2020/8893749> (SCI Journal, IF=1.289).
10. M. Khan, A. Khan, **A. Ahmad**, S. Khan, "A Content-based Technique for Linking Dual Language News Articles in an Archive", Journal of Information Science, Sage Publishers, 2020, <https://doi.org/10.1177%2F0165551520937614> (SCI Journal, IF=2.41).
11. **A. Ahmad**, C. Feng, M. Khan, et al., "A Systematic Literature Review on Using Machine Learning Algorithms for Software Requirements Identification on Stack Overflow", Security and Communication Networks, 2020, <https://doi.org/10.1155/2020/8830683> (SCI Journal, IF=1.376).
12. B. Khan, R. Naseem, M. Binsawad, M. Khan, **A. Ahmad**. "Software Cost Estimation using Flower Pollination Algorithm", Journal of Internet Technology, vol. 21, no. 5, p. 1243-1251, 2020, <https://jit.ndhu.edu.tw/article/view/2362> (SCI Journal, IF=0.78).
13. **A. Ahmad**, A. Ullah, C. Feng, M. Khan, et al., "Towards an Improved Energy Efficient Protocol and End-to-End Secure Protocol for IoT Health Care Applications", vol. 2020, Security and Communication Networks, 2020 <https://doi.org/10.1155/2020/8867792> (SCI Journal, IF=1.376).
14. S. Ashraf, M. Gao, Z. Chen, H. Naeem, **A. Ahmad**, T. Ahmed, "Underwater Pragmatic Routing Approach through Packet Reverberation Mechanism", <https://doi.org/10.1109/ACCESS.2020.3022565>, IEEE Access, 2020 (SCI Journal, IF=4.098).

15. A. Tahir, F.Chen, H. Khan, Z. Ming, **A. Ahmad**, S. Nazir, M. Shafiq, "A Systematic Review on Cloud Storage Mechanisms Concerning e-Healthcare Systems" vol. 20, no. 18, 5392, Sensors, September 2020, <https://doi.org/10.3390/s20185392> (SCI Journal, IF=3.27).
16. N. Boudjellal, H. Zhang, A. Khan, **A. Ahmad**, R. Naseem, L. Dai, "A Silver Standard Biomedical Corpus for Arabic Language", vol. 2020, Complexity, September 2020 <https://doi.org/10.1155/2020/8896659> (SCI Journal, IF=2.46).
17. M. Khan, S. Khan, **A. Ahmad**, A. Khan, "The Role of News Title for Linking during Preservation Process in Digital Archives" October 2020, Library Hi-Tech, <https://doi.org/10.1108/LHT-07-2020-0157> (SCI Journal, IF=1.21).
18. **A. Ahmad**, J.L. Barros-Justo, C. Feng, A.A. Khan, "The Impact of Controlled Vocabularies on Requirements Engineering Activities: A Systematic Mapping Study", vol. 10, no. 21, pp. 7749, October 2020, Applied Sciences, <https://doi.org/10.3390/app10217749> (SCI Journal, IF= 2.47).
19. M.D. Khan, Z. Ullah, **A. Ahmad**, B. Hayat, A. Almogren, K.H. Kim, M. Ilyas, M. Ali, "Energy Harvested and Cooperative Enabled Efficient Routing Protocol (EHCRP) for IoT-WBAN", vol. 20, no. 21, pp. 6267, October 2020, Sensors, <https://doi.org/10.3390/s20216267> (SCI Journal, IF= 3.27).
20. S. Malik, A. Sajid, **A. Ahmad**, A. AlMogren, B. Hayat, M. Awais, K.H. Kim, "An Efficient Skewed Line Segmentation Technique for Cursive script OCR" vol. 2020, pp.12, November 2020, Scientific Programming, <https://doi.org/10.1155/2020/8866041> (SCI Journal, IF= 1.28).
21. S. Ashraf, O. Alfandi, **A. Ahmad**, A. M. Khatak, B. Hayat, K.H. Kim, A. Ullah, "Bodacious-instance Coverage Mechanism for Wireless Sensor Network", vol. 2020, pp.11, October 2020, Wireless Communications and Mobile Computing, <https://doi.org/10.1155/2020/8833767> (SCI Journal, IF= 1.81).
22. N. Ul Haq, M. Ullah, R. Khan, **A. Ahmad**, A. Almogren, B. Hayat, B. Shafi "USAD: An Intelligent System for Slang AND Abusive Text Detection in PERSO-ARABIC Scripted URDU", vol. 2020, pp. 7, November 2020, Complexity, <https://doi.org/10.1155/2020/6684995> (SCI Journal, IF=2.46).
23. B. Khan, R. Naseem, **A. Ahmad**, A. Almogren, S. Jabeen, B. Hayat, M. A. Shah "Investigating Tree Family Machine Learning Techniques for a Predictive System to unveil Software Defects", vol. 2020, pp. 21, November 2020, Complexity, <https://doi.org/10.1155/2020/6688075> (SCI Journal, IF=2.46).
24. R. Naseem, Z. Shaukat, M. Irfan, M.A. Shah, **A. Ahmad**, F. Muhammad, A. Glowacz, L. Dunai, J. Antonino-Daviu, A. Sulaiman "Empirical Assessment of Machine Learning Techniques for Software Requirements Risk Prediction", vol. 10, no. 2, January 2021, Electronics, <https://doi.org/10.3390/electronics10020168>, (SCI Journal, IF=2.41).

25. A. Ullah, J. Wang, S. Anwar, **A. Ahmad**, S. Nazir, F. Zesong, H. Ullah Khan "Fusion of Machine Learning and Privacy Preserving for Secure Facial Expression Recognition", Accepted in Security and Communication Networks, 2021, **(SCI Journal, IF=1.376)**.
26. S. Ashraf, **A. Ahmad**, et al., "Underwater routing protocols: Analysis of link selection challenges", AIMS Electronics and Electrical Engineering, 4(3): 234-248, 2020 **(EI Journal)**.
27. Razman, Z. Iqbal, M. Khan, **A. Ahmad**, R. Naseem, "Fetal Heart Rate Classification and Comparative Analysis of Classifiers Used for CTG", vol. 12, no. 1, pp. 31-42, International Journal of Grid and Distributed Computing (IJGDC), 2019, **(ESCI Journal)**.
28. **A. Ahmad**, K. Li, C. Feng, T. Sun, " An Empirical Study on How iOS developers Report Quality Aspects on Stack Overflow", vol. 8, no. 5, pp.501-506, International Journal of Machine Learning and Computing (IJMLC), 2018, **(SCOPUS/EI Journal)**.
29. H. Khan, **A. Ahmad**, M.A. Alnuem, "Knowledge Management: A Solution to Requirements Understanding in Global Software Engineering", Research Journal of Applied Sciences, Engineering and Technology 4(14): 2087-2099, 2012, **(EI Journal)**.
30. Hussain, K., Zhu, W., Salleh, M., Ali, H., Talpur, N., Naseem, R., **A. Ahmad**, Khan, M., Ullah, A., "A Review on Data Preprocessing Methods for Class Imbalance Problem" International Journal of Engineering & Technology, 2019 **(EI Journal)**.

Conferences:

31. **A. Ahmad**, C. Feng, M. Tao, S. Ge, A. Yousif, "Challenges of Mobile Applications Development: Initial Results" IEEE International Conference on Software Engineering and Service Science (ICSSSES), Beijing, China, Nov. 2017 **(EI Conference)**.
32. M.A. Alnuem, **A. Ahmad**, H. Khan " Requirements Understanding: a challenge in Global Software Development Industrial Surveys in Saudi Arabia" The IEEE Signature Conference on Computers, Software, and Applications, Turkey, COMPSAC 2012, **(EI Conference)**.
33. H. Khan, **A. Ahmad**, et al, "Requirements Understanding in Global Software Engineering: Industrial Surveys" International Conference on Computer and Software Modelling, Singapore, Sept. 2011, **(EI Conference)**.
34. Hussain, K., Zhu, W., Salleh, M., Ali, H., Talpur, N., Naseem, R., **A. Ahmad**, Ullah, A., "Enhanced Bat Algorithm for Solving Non-Convex Economic Dispatch Problem" 4th International Conference on Soft Computing and Data Mining (SCDM), 22-23 January, 2020, Melaka, Malaysia **(ISI /Scopus Indexed Conference)**.
35. Bian, X., Feng, C., **A. Ahmad**, "Targeted Sentiment Classification with Knowledge Powered Attention Network", 31st International Conference on Tools with Artificial Intelligence (ICTAI), 4-6 November, 2019, Portland, USA **(EI Conference)**.

36. R. Naseem, G. Ullah, **A. Ahmad**, et al., "Planquarium: A context aware rule based indoor kitchen garden" 8th EAI International Conference on Context-Aware Systems and Applications (ICCASA 2019), My Tho, Vietnam, November 28-29, 2019 **(WoS/Scopus Indexed)**.
37. **A. Ahmad**, Feng, C., et al. "An Empirical evaluation of machine learning algorithms for requirements identification on Stack Overflow" 10th IEEE International Conference on Software Engineering and Service Science (ICSESS 2019) **(EI Conference)**.
38. Ayaz, U., **A. Ahmad**, "LCX-MAC/BEB (Local Coordination X-MAC) for Wireless Sensor Networks", 1st International Conference on Software Engineering and Computing Disciplines (ICSECD 2019), University of Swabi, 12-14 November, 2019.
39. M. Adnan, **A. Ahmad**, Ayaz, U., Luqman, K., "E-Learning Prototype designing with quality attributes", 1st International Conference on Software Engineering and Computing Disciplines (ICSECD 2019), University of Swabi, 12-14 November, 2019.

Book Chapters:

40. M.A. Sabir, A. Sajid, B. Hayat, **A. Ahmad**, K. Kim "A Systemic Review on IoT Security and Privacy: Threats, Solution Mechanisms over Different Layers", Accepted in Information and Knowledge in Internet of Things, EAI / Springer Innovations in Communications and Computing Series, 2021.

PhD/MS Students Research Supervision Experience

I am currently supervising/co-supervising four MS and PhD research students respectively at University of Swabi, Pakistan.

Conferences/Workshops Organized/Attended

1. **1st International Conference on Software Engineering and Computing Disciplines (ICSECD2019), 12-14 November 2019, University of Swabi, Pakistan (<http://www.uoswabi.edu.pk/conference2019/>)**

Description: I have **Co-Chaired and organized** the 1st International Conference on Software Engineering and Computing Disciplines (ICSECD2019) at University of Swabi. The conference aimed to provide a platform for researchers from both academia and industry to share their contributions in the field of research, future goal in the field and potential impact across industries. This conference is a basic forum for the presentation and exchange of experiences and innovative ideas from different countries in the field of software engineering and computing disciplines.

2. **Workshop on Research Methodology & Technical Writing (RMTW), 29th December, 2018, City University of Science & Information Technology, Peshawar, Pakistan (<https://cu.edu.pk/rmtw/>).**

Description: I have co-organized and delivered a lecture on "Types of Research Methods" in a one-day workshop on Research Methodology & Technical Writing. The workshop aims at offering an introduction to quantitative/qualitative research methods for the students and scholars from different disciplines. The workshop will equip the participants with an understanding of how quantitative/qualitative research approaches may be useful in thesis/projects and with basic skills that are needed to critically design and carry out their own qualitative research projects in their respective fields.

- 3. 3rd International Conference on Emerging Trends in Engineering, Management and Sciences, 18-19 October, 2018, City University of Science & Information Technology, Peshawar, Pakistan (ICETEMS-2018) (<http://icetems.com/>)**

Description: I have Co-Chaired one technical session (Computer Science) at the 3rd International Conference on Emerging Trends in Engineering, Management and Sciences (ICETEMS-2018) organized by City University of Science and Information Technology (CUSIT), Peshawar in collaboration with Institute of Engineers Pakistan (IEP) Islamabad and Department of Construction Management at East Carolina University of USA and Auburn University USA. The conference has multi-tracks involving Engineering, Management, Mathematics, Architecture, Health/Life Sciences, Social Sciences etc.

- 4. 8th IEEE International Conference on Software Engineering and Service Science (ICSSSES), 24-26 November, 2017, Beijing, China (<http://www.icsses.org/ph2017.html>)**

Description: I have attended 8th IEEE International Conference on Software Engineering and Service Science (ICSSSES), 24-26 November, 2017, Beijing, China as a participant and presented my research work. The conference brings together top researchers from Asian Pacific nations, North America, Europe and around the world to exchange their research results and address open issues in Deep Learning and Big Data; Intelligent System Architectures; Intelligent Web and Algorithm; Software Engineering and Service Science; Artificial Intelligence tools & Applications; Block chain Technology and Systems. It is one of the leading international conferences for presenting novel and fundamental advances in the fields of New Generation Artificial Intelligence Internet of Things System Model and Algorithm Software Engineering and Block chain Technology and Systems.

- 5. 3rd Summer School on Generative and Transformational Techniques in Software Engineering 6-11 July, 2009, Braga, Portugal (<http://gttse.wikidot.com/2009>)**

Description: I have attended 3rd summer school on Generative and Transformational Techniques in Software Engineering from 6-11 July, 2009, Portugal as a participant. The aim of this summer school was to bring together PhD students, lecturers, as well as researchers and practitioners who are interested in the generation and the transformation of programs, data, software models, data models, meta models, documentation, and entire software systems. Moreover, it covered the fields of software engineering and programming language communities, specifically: software reverse and reengineering, model-driven software development, program calculation, generic language technology, generative programming, aspect-oriented programming, and compiler construction.

Research Grants

- 1. Higher Education Commission (HEC), Islamabad, Pakistan**

Description: I have received higher studies research travel grant (No. 215.72/TG/R&D/HEC/2014/304) and (No. 298.177/TG/R&D/HEC/2017/27217) from HEC in 2014 and 2018 respectively.

- 2. Start-Up Research Grant Program, Higher Education Commission (HEC), Islamabad.**

Description: I have applied for the Start-Up Research Grant Program of HEC at the University of Swabi, K.P.K., Pakistan.

- 3. Accurate Evaluation and Measurement of Medical Big Data in Healthcare Based on Multi-Criteria Decision Making.**

Description: I have submitted this project as a Co-PI at Pakistan Science Foundation (PSF) having worth of 8 Million PKR.

Scholarships/Distinctions

1. Received Ph.D. Computer Science scholarship from China Scholarship Council, China.
2. Sponsorship for 3rd Summer School on Generative and Transformational Techniques in Software Engineering from 6-11 July, 2009, Portugal (<http://gttse.wikidot.com/>).
3. Master Thesis research work with distinction i.e. ECTS Grade B.

4. Merit Scholarship for six semesters during BCS at University of Peshawar.

Courses Taught

I have taught different courses to PhD/MS/BS Software Engineering/Computer Science students including, e.g., Requirements Engineering, Software Quality Management, Software Engineering, Data Mining, Software Project Management, & Research Methods among others.

Language Skills

1. English, Urdu, and Pashto: **Excellent**
2. German and Chinese: **Basic**

References

1. **Prof. Dr. Kan Li**, Beijing Institute of Technology, China. Email: likan@bit.edu.cn
2. **Prof. Dr. Chong Feng**, Beijing Institute of Technology, China, Email: fengchong@bit.edu.cn
3. **Prof. Dr. Mohammad Abid**, Pro-VC, University of Peshawar, Pakistan, Email: mabid@uop.edu.pk