

PERSONAL INFORMATION

Arshad Ahmad, Ph.D.,



Department of Informational Technology & Computer Science,
Pak Austria Fachhochschule: Institute of Applied Sciences & Technology, Haripur, Pakistan
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<https://scholar.google.com/citations?user=zAUctVEAAAAJ&hl=en>

WORK EXPERIENCE

October 2020 till date

Assistant Professor (Software Engineering & Computer Science)

Department of IT & Computer Science, Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology, Haripur, Pakistan (<https://paf-iaast.edu.pk/personnel/dr-arshad-ahmad/>).

- Teaching software engineering courses to undergraduate level.
- Undergraduate Final Year Projects Coordinator.
- Quality Enhancement Cell committee member.
- Outcome Based Education committee member.
- Curriculum Development committee member (Undergraduate & Postgraduate).
- Research & Development
- Students' supervision
- Graduate thesis committee member

October 2021- September 2022

Senior Researcher (Software Engineering)

Institute of Software Systems Engineering, Johannes Kepler University, Linz, Austria
(<https://www.jku.at/en/institute-of-software-systems-engineering/about-us/former-staff-members/>).

- Research & Development mainly in Software Engineering for AI systems

September 2020-October 2020

Assistant Professor (Software Engineering & Computer Science)

Department of Computer Science, City University of Science & Information Technology, Peshawar, Pakistan (<http://www.cityuniversity.edu.pk>)

- Teaching software engineering courses to undergraduate & postgraduate level
- Research & Development
- Examination committee member
- Students' supervision
- Quality Enhancement Cell committee member
- Curriculum development committee member

March 2019-September 2020

Assistant Professor (Computer Science)

Department of Computer Science, University of Swabi, Swabi, Pakistan (<http://www.uoswabi.edu.pk>).

- Department Coordinator undergraduate programs
- Teaching software engineering/computer sciences courses to undergraduate & postgraduate level
- Research & Development
- Students' supervision
- Curriculum development
- Quality Enhancement cell committee member

August 2018- February 2019 **Assistant Professor (Software Engineering & Computer Science)**
Department of Computer Science, City University of Science & Information Technology, Peshawar, Pakistan (<http://www.cityuniversity.edu.pk>)

- Teaching software engineering courses to undergraduate & postgraduate level
- Research & Development
- Examination committee member
- Students' supervision
- Quality Enhancement Cell committee member
- Curriculum development committee member

September 2014- July 2018 **PhD Researcher**
School of Computer Science & Technology, Beijing Institute of Technology, Beijing, China (<https://english.bit.edu.cn/index.htm>).

- Research & Development

October 2011- April 2014 **Research Assistant (Software Engineering)**
Institute of Computer Technology, Vienna University of Technology, Vienna, Austria (<https://www.ict.tuwien.ac.at/en/>)

- Research & Development in different EU projects (ProReuse)
- Teaching Assistant in undergraduate software engineering courses
- Writing different EU and Austria R&D projects proposals
- Support in managing departmental library

May 2010-October 2011 **Research Assistant (Software Engineering)**
Fraunhofer Institute of Experimental Software Engineering, Kaiserslautern, Germany (<https://www.iese.fraunhofer.de/en.html>)

- Research & Development in a EU project Quamoco (<https://quamoco.in.tum.de/>)
- Writing different EU and Germany R&D projects proposals

EDUCATION AND TRAINING

October 2021-September 2022 **Post-Doctorate**
Institute of Software Systems Engineering, Johannes Kepler University, Linz, Austria (<https://www.jku.at/en/institute-of-software-systems-engineering/about-us/former-staff-members/>).

- Specialization in Software Requirements Engineering for AI Systems

September 2014-July 2018 **Ph.D. Computer Science & Technology**
School of Computer Science & Technology, Beijing Institute of Technology, Beijing, China (<https://english.bit.edu.cn/index.htm>).

- Specialization in Software Requirements Engineering

January 2007-December 2008 **Master of Software Engineering**
Blekinge Institute of Technology, Karlskrona, Sweden (<https://www.bth.se/eng/>).

- Specialization in Software Engineering

January 2002- May 2006 **Bachelor of Computer Science**
Department of Computer Science, University of Peshawar, Pakistan (<http://www.uop.edu.pk>)

- Specialization in Computer Sciences

ADMINISTRATIVE EXPERIENCE

Organisational / managerial skills

Being a leader/member of different assigned tasks acquired a diversity of administrative experience such as:

- Undergraduate Final Year Projects coordinator at Department of IT & CS, PAF-IAST.
- BS Coordinator (BS-CS) at Department of Computer Science, University of Swabi, Pakistan
- Curriculum designing of different PhD, MS, and BS programs (CS, SE, AI, DS, etc.).
- Well experienced in different graduate programs accreditation process (Outcome Based Education).
- Member of BS & MS thesis defence's/examination committee
- Organized and Co-Chaired Conferences and Workshops.
- Member of Quality Enhancement Cell (QEC).

RESEARCH PUBLICATIONS

Peer Reviewed Journals

- **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**).
- **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**).
- **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**).
- **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**).
- **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**).
- A.W. Khan, M. Khan, J.A. Khan, **A. Ahmad**, K. Khan, M. Zamir, W. Kim, M.F. Ijaz, "Analyzing and Evaluating critical challenges and practices for software vendor organizations to secure Big Data on Cloud Computing: An AHP-based Systematic Approach", vol. 9, pp. 107309-107332, July 2021, IEEE Access, <https://doi.org/10.1109/ACCESS.2021.3100287> (**SCI Journal, IF=4.098**).
- 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**).
- 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, Nov. 2020, Complexity, <https://doi.org/10.1155/2020/6688075> (**SCI Journal, IF=2.46**).
- 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**).
- **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**).
- 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**).
- 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**).

- A. Tahir, F. Chen, B. Hayat, Q. Shaheen, Z. Ming, **A. Ahmad**, K. Kim, B. H. Lim, "Hybrid HP-BOA: An Optimized Framework for Reliable Storage of Cloud Data Using Hybrid Meta-Heuristic Algorithm", vol.13, Issue.9, Applied Sciences, 2023, <https://doi.org/10.3390/app13095346> (SCI Journal, IF=2.7).
- M. Khan, **A. Ahmad**, F. Sobieczky, M. Pichler, B.A. Moser, I. Bukovský, "A Systematic Mapping Study of Predictive Maintenance in SMEs", vol. 10, pp. 88738-88749, IEEE Access, 2022, <https://doi.org/10.1109/ACCESS.2022.3200694> (SCI Journal, IF=3.47).
- 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).
- 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).
- M. Ahmad, O.Alfandi, A.M. Khattak, S.Qadri, I.Saeed, S.Khan, B.Hayat, **A. Ahmad** "Facial expression recognition using lightweight deep learning modeling", vol. 20, Issue. 5, pp. 8208-8225, Mathematical Biosciences and Engineering, 2023, <https://doi.org/10.3934/mbe.2023357> (SCI Journal, IF=2.19).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- 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).
- S. Malik, A. Sajid, **A. Ahmad**, A. Al Mogren, 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).
- S. Ashraf, O. Alfandi, **A. Ahmad**, A. M. Khatak, B. Hayat, K.H. Kim, A. Ullah, "Bodacious-instance Coverage Mechanism for Wireless Sensor Network", 2020, Wireless Communications & Mobile Computing, <https://doi.org/10.1155/2020/8833767> (SCI Journal, IF= 1.81).
- 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**).

- 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", vol. 2021, pp. 12, 2021, Security & Communication Networks, <https://doi.org/10.1155/2021/6673992> (**SCI Journal, IF=1.376**).
- N. Boudjellal, H. Zhang, A. Khan, **A. Ahmad**, R. Naseem, J. Shang, L. Dai, "ABioNER: A BERT-Based Model for Arabic Biomedical Named-Entity Recognition", vol. 2021, pp. 6, March 2021, Complexity, <https://doi.org/10.1155/2021/6633213> (**SCI Journal, IF=2.46**).
- A. Khan, H. Zhang, N. Boudjellal, **A. Ahmad**, J. Shang, L. Dai, B. Hayat, "Election Prediction on Twitter: A Systematic Mapping Study", vol. 2021, pp. 27, April 2021, Complexity, <https://doi.org/10.1155/2021/5565434> (**SCI Journal, IF=2.46**).
- I. Haq, Z. Khan, **A. Ahmad**, B. Hayat, A. Khan, Y.E. Lee, K.H. Kim, "Evaluating and Enhancing the Robustness of Sustainable Neural Relationship Classifiers Using Query-efficient Black-box Adversarial Attacks", 2021, Sustainability, <https://doi.org/10.3390/su13115892> (**SCI Journal, IF=2.57**).
- S. Ashraf, **A. Ahmad**, A. Yahya, T. Ahmad, "Underwater routing protocols: Analysis of link selection challenges", vol. 4, no. 3, pp. 234-248, 2020, AIMS Electronics and Electrical Engineering, <https://doi.org/10.3934/ElectrEng.2020.3.234> (**EI Journal**).
- 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, http://article.nadiapub.com/IJGDC/vol12_no1/3.html (**ESCI Journal**).
- **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, <http://www.ijmlc.org/vol8/736-SE027.pdf> (**SCOPUS/EI Journal**).
- 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, <https://maxwellsci.com/print/rjaset/v4-2087-2099.pdf> (**EI Journal**).
- 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, <https://www.sciencepubco.com/index.php/ijet/article/view/29508> (**EI Journal**).

Conferences Publications

- **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 <https://doi.org/10.1109/ICSESS.2017.8342956> (**EI Conference**).
- **A. Ahmad**, C. Feng, A. Tahir, 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) <https://doi.org/10.1109/ICSESS47205.2019.9040720> (**EI Conference**).
- 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, <https://doi.org/10.1109/COMPSAC.2012.41> (**EI Conference**).
- H. Khan, **A. Ahmad**, et al, "Requirements Understanding in Global Software Engineering: Industrial Surveys" International Conference on Computer and Software Modelling, Singapore, Sept. 2011, <http://www.ipcsit.com/vol14/31-ICCSM2011-S2006.pdf> (**EI Conference**).
- 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,

https://doi.org/10.1007/978-3-030-36056-6_39 (ISI /Scopus Indexed Conference).

- 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 <https://doi.org/10.1109/ICTAI.2019.00150> (EI Conference).
- 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, https://doi.org/10.1007/978-3-030-34365-1_2 (WoS/Scopus Indexed).
- 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.
- 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.

RESEARCH SUPERVISION

PhD Students

I have successfully co-supervised two PhD students at Beijing Institute of Technology, China.

- Nada Boudjellal, Research on Biomedical Knowledge Extraction for Arabic Language, 2021.
- Asif Khan, Research on Location-Aware Election Prediction on Social Media, 2023

MS Students

Currently supervising two MS students at Pak Austria Fachhochschule: Institute of Applied Sciences & Technology, Pakistan.

CONFERENCES/WORKSHOPS ORGANIZED/ATTENDED

- 1st International Conference on Software Engineering and Computing Disciplines (ICSECD2019), 12-14 November 2019, University of Swabi, Pakistan (<http://www.uoswabi.edu.pk/conference2019/>)
- Workshop on Research Methodology & Technical Writing (RMTW), 29th December 2018, City University of Science & Information Technology, Peshawar, Pakistan (<https://cu.edu.pk/rmtw/>).
- 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/>).
- 8th IEEE International Conference on Software Engineering and Service Science (ICSSES), 24-26 November 2017, Beijing, China (<http://www.icsess.org/ph2017.html>).
- 3rd Summer School on Generative and Transformational Techniques in Software Engineering 6-11 July, 2009, Braga, Portugal (<http://gtse.wikidot.com/2009>).

COURSES TAUGHT

PhD, MS, and BS Courses

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

REFERENCES

- Prof. Dr. Chong Feng, Beijing Institute of Technology, China, Email: fengchong@bit.edu.cn
- Dr. Maqbool Khan, Department of IT & CS, Pak Austria Fachhochschule: Institute of applied Sciences & Technology, Haripur, Pakistan, Email: maqbool.khan@fecid.paf-iast.edu.pk