# Saad Shafiq

**Mobile:** +43-0660-1842874
**Skype id:** saad-shafiq
**Email:** saad4is@hotmail.com
**Address:** Julius-Raab-Strasse 10 / 9.ST 950 Linz, Austria 4040

## EDUCATIONAL HISTORY

| Degree/ Certificate | Institutions and awards |
|---|---|
| **Ph.D. Computer Science**<br>**2019-2022** | ➢ Doctoral Researcher at LIT AI Lab<br>➢ **Distinction** in research<br>➢ **Dissertation:** "Supporting the triaging process in software Development"<br>➢ Expertise: Deep learning, NLP, Reinforcement learning<br>***Johannes Kepler University, Linz, Austria*** |
| **M.S Software Engineering**<br>**Fall 2015-2017**<br>**(2 Years)** | ➢ **3.46 CGPA /4.00**<br>➢ **Distinction** in Course Work, and **Distinction** (in terms of CGPA)<br>➢ **Thesis title:** "Communication Patterns of Kanban Teams and their Impact on Iteration Performance and Quality: An Empirical Study"<br>***National University of Computer and Emerging Sciences (NUCES), Islamabad, Pakistan.*** |
| **B.S Software Engineering**<br>**2011-2015**<br>**(4 Years)** | ➢ **3.15 CGPA/4.00**<br>➢ **Specialized Courses:** Web Development, Database Management System and Object Oriented Programming<br>***National University of Modern Languages, Islamabad, Pakistan.*** |

## Professional Experience

**[February 2019] – [December 2022]**
**[Doctoral Researcher], [JKU]**

- Tech. stack: Python, R, SQL, Git, Pandas, Numpy, Scikit, Keras, Tensorflow, Pytorch, Neo4j
- Worked on problems including classification, clustering, regression, and optimization
- Implemented prototypes and POCs to improve software engineering life cycle using contemporary machine learning algorithms
- Worked with NLP techniques including topic extraction, LDA, and sentiment analysis
- Responsible for analyzing complex and large scale structured/unstructured datasets and converting into actionable insights
- Experienced in statistical analysis, applied machine learning, and making technicalities graspable for the stakeholders

**[February 2019] – [May 2019]**
**[Blockchain Developer], [MTBC]**

- Responsible for setting up a highly resilient and sustainable blockchain network architecture
- Ensured stable and robust distributed environment using Kubernetes
- Implemented Hyperledger fabric framework and worked on script automation
- Proficient in Hyperledger tools such as Hyperledger Composer and Hyperledger Explorer
- Written business logic chaincodes in golang and node.js
- Hands on experience with writing smart contracts in solidity (Ethereum)
- Created DApps (Distributed applications) with exposed REST APIs'

**[January 2018] – [February 2019]**
**[Software Engineer], [MTBC]**

- Responsible for deployments to QA, Staging and Production environment as being the release owner in the team
- Responsible for merging the code of entire team on TFS
- Rigorously followed agile methodologies (SCRUM, Kanban) in the development process using JIRA
- Implemented the latest hashing algorithm in the system
- Created stored procedures for reporting and analytics
- Performed JSON manipulation and Schema validation
- Enhanced product's performance by implementing bulk insertions to database and enabling multi-threading
- Acted as a liaison between Product Owners and the team to ensure development and operations are moving in the right direction
- Designed the architecture of new modules of the system
- Developed Web APIs for new modules in the system
- Managed support and helpdesk team to always cater to client needs
- Analyzed and evaluated client requests in order to develop new functionality

**[August 2016] – [October 2017]**
**[Research Assistant], [National University of Computer and Emerging Sciences]**

- Conducted research to identify major research gaps in the area of Requirements Engineering, Machine Learning, and Agile Software Development Processes
- Performed Social Network Analysis on large datasets using UCINet and Gephi
- Published research articles in Tier-1 and high impact journals and conferences
- Collaborated with the active researchers in the domain of Requirements Engineering, Data Science, Machine Learning, and Software Testing
- Analyzed large datasets and produced meaningful insights using contemporary machine learning algorithms

**[2015] – [2017]**
**[Freelancer], [Fiverr/Local]**

- Full-Stack Asp.net Development
- Implemented Zendesk, Freshdesk for implementation and support operations
- Create infographic, company's business projection-oriented videos

**[January 2015] – [February 2015]**
**[Intern], [Target Systems]**

- Perform WorkFlow Management
- Work on different modules of company's CRM product

**[June 2014] – [July 2014]**
**[Intern], [Fauji Fertilizers Bin Qasim Limited (FFBL)]**

- Assist in support operations
- Create purchase orders using SAP Business Objects
- Use Lotus mail to interact with company's employees

**[June 2013] – [August 2013]**
**[Intern], [Pakistan Telecom Company Limited (PTCL)]**

- Use Oracle Siebel (CRM) to provide customer support
- Explore SAP Enterprise Resource Planning

## Publications

- Saad Shafiq, Christoph Mayr-Dorn, Atif Mashkoor, and Alexander Egyed. "Balanced Knowledge Distribution among Software Development Teams--Observations from Open-Source and Closed-Source Software Development." arXiv preprint arXiv:2207.12851 2022.

- Saad Shafiq, Atif Mashkoor, Christoph Mayr-Dorn, Alexander Egyed, "A Literature Review of Using Machine Learning in Software Development Life Cycle Stages." IEEE Access, 2021.

- Saad Shafiq, Atif Mashkoor, Christoph Mayr-Dorn, Alexander Egyed, "NLP4IP: Natural Language Processing-based Recommendation Approach for Issues Prioritization." In the proceedings of 2021 47th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), 2021.

- Saad Shafiq, Atif Mashkoor, Christoph Mayr-Dorn, Alexander Egyed, "TaskAllocator: A Recommendation Approach for Role-based Tasks Allocation in Agile Software

Development." In the proceedings of 2021 IEEE/ACM Joint 15th International Conference on Software and System Processes (ICSSP) and 16th ACM/IEEE International Conference on Global Software Engineering (ICGSE), 2021.

- Saad Shafiq, Christoph Mayr-Dorn, Atif Mashkoor, Alexander Egyed, "Towards Optimal Assembly Line Order Sequencing with Reinforcement Learning: A Case Study." In the proceedings of 2020 25th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), 2020.

- Saad Shafiq, Atif Mashkoor, Christoph Mayr-Dorn, Alexander Egyed, "Machine Learning for Software Engineering: A Systematic Mapping." arXiv preprint arXiv:2005.13299, 2020.

- Saad Shafiq, Irum Inayat, Muhammad Abbas, "Communication Patterns of Kanban Teams and their Impact on Iteration Performance and Quality." In the proceedings of 2019 45th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), 2019.

- Shafiq Rehman, Volker Gruhn, Saad Shafiq, Irum Inayat, "A systematic mapping study on security requirements engineering frameworks for cyber-physical systems." In the proceedings of International Conference on Security, Privacy and Anonymity in Computation, Communication and Storage, 2018.

- Saad Shafiq, Irum Inayat, "Towards Studying the Communication Patterns of Kanban Teams: A Research Design." In the proceedings of 2017 IEEE 25th International Requirements Engineering Conference Workshops (REW), 2017.

Saad Shafiq, Irum Inayat, "Model-driven Development based Cross Platform Application Development: A Systematic Mapping Study." Journal of Information Science and Engineering, 2017.