



Shamsa Abid, Ph.D.

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Research Interests

- AI and Deep Learning systems Explainability, Trustworthiness, Generative AI for Code Reuse - Safety and Performance, Code Models Trustworthiness Evaluation, Semantic Code Clones Benchmarking, Explainable AI (XAI), Code Recommendation and Reuse, Mining Software Repositories, Empirical Studies, Design Patterns, Algorithms.

PostDoc Employment

2022 – 2024  **Research Scientist** Singapore Management University



Education

- 2015 – 2021  **Ph.D. Computer Science, LUMS**
Thesis title: *Feature-driven API Usage based Code Recommendation for Opportunistic Reuse*
- 2011 – 2013  **MS Computer Science, LUMS**
Project title: *Low Literacy Keyboard for Mobile Devices: Enabling Fast and Efficient Text Input.*
- 2000 – 2004  **BS Hons. Computer Science, Lahore College for Women University**
Project title: *Library Management System.*




Teaching Experience

- Fall 2018  **Visiting Assistant Professor** *Web Programming* , NUCES - FAST Lahore
- Spring 2015  **Visiting Lecturer** *Software Quality Assurance* , Kinnaird College for Women University
- Fall 2012  **Visiting Lecturer** *Creating Digital Content* , Beaconhouse National University
- Spring 2021  **Teaching Assistant** *Software Development Tools and Processes* , LUMS
- Spring 2020  **Teaching Assistant** *Software Development Tools and Processes* , LUMS
- Spring 2015  **Teaching Assistant** *Software Engineering* , LUMS
- Fall 2014  **Teaching Assistant** *Design Patterns and Refactoring* , LUMS
- Fall 2013  **Teaching Assistant** *Design Patterns and Refactoring* , LUMS
- Fall 2012  **Teaching Assistant** *Introduction to Computing* , LUMS

Industry Experience

- Aug 13 – Oct 14  **Senior Software Engineer** Techlogix Pvt. Ltd.
- Apr 07 – Sep 07  **Software Engineer** Xavor Pvt. Ltd.

Research Experience



- Dec 21 – Mar 22  **Intern** JetBrains
- Jan 13 – Jun 13  **Research Associate** *Software Testing* LUMS
- Jun 11 – Aug 11  **Research Associate** *Technology for Low Literacy Segment*, LUMS

Research Publications





Journal Articles

- 1 S. Abid, S. Shamail, H. A. Basit, and S. Nadi, "FACER: An API usage-based code-example recommender for opportunistic reuse," *Empirical Software Engineering*, vol. 26, no. 6, p. 110, 2021.

Conferences and Workshops

- 1 S. Abid, X. Cai, and L. Jiang, "Interpreting codebert for semantic code clone detection," in *2023 30th Asia-Pacific Software Engineering Conference (APSEC)*, IEEE, 2023, pp. 229–238.
- 2 S. Abid, H. Abdul Basit, and S. Shamail, "Context-aware code recommendation in intellij idea," in *Proceedings of the 30th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering*, 2022, pp. 1647–1651.
- 3 S. Arshad, S. Abid, and S. Shamail, "Codebert for code clone detection: A replication study," in *2022 IEEE 16th International Workshop on Software Clones (IWSC)*, IEEE, 2022, pp. 39–45.
- 4 S. M. Rabbani, N. A. Gulzar, S. Arshad, S. Abid, and S. Shamail, "A comparative analysis of clone detection techniques on semanticclonebench," in *2022 IEEE 16th International Workshop on Software Clones (IWSC)*, IEEE, 2022, pp. 16–22.
- 5 M. Kamal, A. Abaid, S. Abid, and S. Shamail, "Facer-as: An api usage-based code recommendation tool for android studio," in *2021 IEEE International Conference on Software Maintenance and Evolution (ICSME)*, IEEE, 2021, pp. 609–613.
- 6 S. Abid, "Recommending related functions from api usage-based function clone structures," in *Proceedings of the 2019 27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering*, ser. ESEC/FSE 2019, Tallinn, Estonia: Association for Computing Machinery, 2019, pp. 1193–1195, ISBN: 9781450355728.  DOI: 10.1145/3338906.3342486.
- 7 S. Abid, S. Javed, M. Naseem, S. Shahid, H. A. Basit, and Y. Higo, "Codeease: Harnessing method clone structures for reuse," in *2017 IEEE 11th International Workshop on Software Clones (IWSC)*, IEEE, 2017, pp. 1–7.
- 8 S. Abid and H. A. Basit, "Towards a structural clone based recommender system," in *2016 IEEE 23rd International Conference on Software Analysis, Evolution, and Reengineering (SANER)*, IEEE, vol. 3, 2016, pp. 51–52.
- 9 S. Abid, Z. Qamar, N. Khan, M. Shayan, and H. A. Basit, "Retrieving design pattern usage examples using domain matching," in *2016 23rd Asia-Pacific Software Engineering Conference (APSEC)*, IEEE, 2016, pp. 33–40.
- 10 S. Abid, H. Abdul Basit, and N. Arshad, "Reflections on teaching refactoring: A tale of two projects," in *Proceedings of the 2015 ACM Conference on Innovation and Technology in Computer Science Education*, ser. ITiCSE '15, Vilnius, Lithuania: Association for Computing Machinery, 2015, pp. 225–230, ISBN: 9781450334402.  DOI: 10.1145/2729094.2742617.

Seminars

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| Nov 2023 |  | Why P not Q? Interpreting Code Models Decision Making, LUMS |
| Oct 2023 |  | Unveiling the Code Model Enigma: Interpreting the Gap Between AI and Human Intuition in Code Clone Detection, Singapore Management University |
| Sep 2021 |  | Comparing Clustering against Deep-Learning for Semantic Code Clone Detection, LUMS |
| |  | An API Usage-based Code Recommendation Tool for Android Studio, LUMS |

Service

Program Committee Membership

- 2024
 - **Research Track** *International Conference on Software Maintenance and Engineering (IC-SME)*
 - **Technical Track** *Mining Software Repositories (MSR)*
 - **Research Track** *AI Foundation Models and Software Engineering (Forge)*
- 2023
 - **Demonstrations Track** *International Conference on Software Engineering (ICSE)*
 - **Industry Track** *Mining Software Repositories (MSR)*
 - **Research Track** *International Workshop on Interpretability and Robustness in Neural Software Engineering (InteNSE)*
- 2021
 - **Shadow PC** *Mining Software Repositories (MSR)*

Journal Reviews

- 2024
 - *ACM Transactions on Software Engineering and Methodology (TOSEM)*
 - *Empirical Software Engineering (EMSE)*
- 2020 – 2021
 - *Journal of Behavior and Information Technology*

Awards and Certificates

Awards

- 2016
 - **Runner Up Poster**, SBASSE PhD Colloquium, LUMS
- 2013
 - **Deans Honor List Award**, LUMS
 - **Outstanding Teaching Assistant Award**, Software Engineering, LUMS

Certification

- 2016
 - **Machine Learning Foundations: A Case Study Approach**. Coursera, University of Washington.

References

Prof. Dr. Shafay Shamail, Professor, LUMS, sshamail@lums.edu.pk

Prof. Dr. Lingxiao Jiang, Professor, Singapore Management University, lxjiang@smu.edu.sg

Dr. Sarah Nadi, Associate Professor, New York University, Abu Dhabi, sarah.nadi@nyu.edu