

FATIMA SABIR

[DBLP](#) | [Google Scholar](#)

Objective

To join a dynamic, growing and future oriented academia with a willingness to share and learn knowledge in a challenging environment.

Research Interest

- Empirical Software Engineering
- IoT Systems
- Source Code Analysis
- Software Evolution
- Software Refactoring
- Topic Modeling
- Natural Language Processing
- Pattern and Antipatterns for Web Services
- Software Project Management

Current Position

- **Assistant Professor** from June 26, 2023 to present
Department of Computer Science
Faculty of Computing and Information Technology, University of the Punjab, Lahore Pakistan

Publication Summary

- International Journal article published 6

Academic Qualification

- **Doctor of Philosophy (Ph.D.)**, 2019 Computer Sciences (Software Engineering)
COMSATS University Islamabad, Pakistan
Thesis Title: Detection of Antipatterns from Service Oriented Architecture
- **Master of Science (M.Sc.)**, 2012
Computer Sciences (Software Engineering)
COMSATS University Islamabad, Pakistan
Thesis Title: Fully Distributed SCRUM with better team productivity
- **Bachelor of Science (B.Sc.)**, 2007 Information Technology
Punjab University Lahore, Pakistan

Academic Experience

- **Assistant Professor (May 2022 - June 26, 2023)**
Faculty of Computer Science
COMSATS University Islamabad, Pakistan
Key area of teaching and research: Object Oriented Programming, Topics in Software Engineering, Software Project Management, Reverse Engineering of Source Code, NLP for Software Engineering
- **Postdoctoral Researcher (March 2020 – December 2021)** Gina Cody School of Engineering and Computer Science University of Concordia.
Key area of research: Empirical Software Engineering, Antipatterns Detection, Topic Modeling, Feature Identification
- **Assistant Professor (October 2016 - February 2020)**
Sharif College of Engineering and Technology affiliated with (UET, Lahore)
Key area of Teaching : Programming Languages, Object Oriented Programming, Software Engineering Web Programming, Information System, Object Oriented Analysis and Design
- **Assistant Professor (August 2013 - October 2016)**
Lahore Leads University, Pakistan
Key area of research: Advance Web Programming, Software Quality Assurance, Research Methodology for Software Engineering
- **Lecturer (March 2008 to August 2013)**
University of the Punjab
Key area of teaching: Introduction to Computing, Introduction to Programming, Information Systems
- **Course Instructor (August 2002 to August 2007)**
District Industrial Home Social Welfare Govt. of the Punjab, Pakistan.
Key area of teaching: Computer application for office management
- **Teaching Area Incharge (September 2022 to June 2023)**
COMSATS University Islamabad, Lahore Campus
Object Oriented Programming, Software Testing, Software Architecture and Design, Software Quality Assurance
Key responsibilities are: Managing and Designing Content of the course. Designing methodologies for assignments and arranging workshops for the students. Providing key guidelines to course instructors.

Master Thesis Supervised

2023

Good or Bad: Design Principles for Resolving Maintainability Issues for Micro services (Master) Effect of Bad Coding Practices for Client Web Services (Masters)

2021

Web API Evolution affect the Client APIs (MS)

2020

Detection of Linguistic Antipatterns from Web Services (MS)

Recovery of Anti-patterns from Micro services (MS)

Are the Bio Informatics API well Designed: Detection of Antipatterns from Bio Informatics APIs (BSCS)

Android applications for kids age less than 10: A recommendation system for parents (BSCS)

2019

How antipatterns Effect Service Oriented Architecture (MS)

Fully Distributed SCRUM productivity in Asia: A case Study (MS)

Ph.D Thesis Supervised

- Effect of Evolution of Antipatterns for Client Web Applications (continue)
- Measuring the technical debt for Micro Services (continue)
- Testing IoT Systems (continue)
Evaluation criteria of IoT system architecture (continue)

Research Fellowship

- 22 –Months Fully funded Postdoc scholarship from Mitac and Concordia University, Canada
- 6-months paid fellowship from HEC-Pakistan (10,000 US\$)

Reviewing Profile

I am the Reviewer of the following conferences /Journal

- IST (Information and Software Technology)
- SQJ (Software Quality Journal)
- ICSSOC (International Conference on Service-Oriented Computing).
- ICSE (International Conference on Software Engineering).
- IEEE TSE (IEEE Transactions on Software Engineering).
- JSS (Journal of Systems and Software).
- SCAM (IEEE International Working Conference on Source Code Analysis and Manipulation).
- ICSME-ERA (IEEE International Conference on Software Maintenance and Evolution, Early Research Achievements)
- CSMR-WCRE (IEEE Conference on Software Maintenance, Reengineering and Reverse Engineering).
- IEEE TSE (IEEE Transactions on Software Engineering).
- AUSE (Automated Software Engineering).

Published Research Articles

1. Minani, Jean Baptiste, Fatima Sabir, Naouel Moha, and Yann-Gaël Guéhéneuc. "A Multi-Method Study of Internet of Things Systems Testing in Industry." *IEEE Internet of Things Journal* (2023).
2. Mahmood, K., Rasool, G., Sabir, F., & Athar, A. (2023). An Empirical Study of Web Services Topics in Web Developer Discussions on Stack Overflow. *IEEE Access*.
3. Uddin, G., Sabir, F., Guéhéneuc, Y. G., Alam, O., & Khomh, F. (2021). An empirical study of IoT topics in IoT developer discussions on stack overflow. *Empirical Software Engineering*, 26, 1-45.
4. Sabir, F., Gueheneuc, Y. G., Palma, F., Moha, N., Rasool, G., & Akhtar, H. (2021). A mixedmethod approach to recommend corrections and correct REST antipatterns. *IEEE Transactions on Software Engineering*, 48(11), 4319-4338.

5. Sabir, F., Palma, F., Rasool, G., Guéhéneuc, Y. G., & Moha, N. (2019). A systematic literature review on the detection of smells and their evolution in object oriented and service oriented systems. *Software: Practice and Experience*, 49(1), 3-39.
6. Sabir, F., Rasool, G., & Yousaf, M. (2017). A Lightweight Approach for Specification and Detection of SOAP Anti-Patterns. *International Journal of Advance Computer Science and Applications*, 8(5), 455-467.

National /International Collaboration

1. Professor Yann-Gael

Department of Computer Science and Software Engineering,
Concordia University

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2. Professor Naouel Moha

ETS

University of de Quebec Montreal

Email id: Naouel.Moha@etsmtl.ca

3. Professor Foutse Khomh

Department of Computer Engineering and Software Engineering

Ecole Poly Technique Montreal

Email id: foutse.khomh@polymtl.ca

4. Professor Ghulam Rasool

Department of Computer Sciences

COMSATS University Islamabad, Pakistan

Email id: grasool@cuilahore.edu.pk

Personal Information

Nationality:	Pakistani	Marital Status:	Married
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