

Amir Mashmool

SOFTWARE ENGINEERING RESEARCHER

Department of Mathematics and Computer Science, University of Bremen, Bremen, Germany

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Research Interests

Software Engineering : Program comprehension, Developer Behaviour, Eye tracking, Empirical Software Engineering, human aspect of software engineering, SE4AI, AI4SE

Artificial Intelligence: Machine learning, Deep Learning

Research Profile Links

[Google Scholar](#) | [Ad Scientific Index](#) | [ResearchGate](#) | [DBLP](#) | [Scopus](#) | [IEEE Xplore](#)
| [ORCID](#) | [Publons](#) | [Academia](#) | [SciProfiles](#) | [Semantic Scholar](#) | [Frontiers](#) |
[MyScienceWork](#) | [LinkedIn](#) | [GitHub](#) | [Twitter](#)

Current Appointments

- ◇ **Research Assistant** - [Software Engineering Research Group](#) - University of Bremen December 2024–now
- ◇ **Associate Fellow** - [DFG funded research training group - CAUSE](#) December 2024–now
- ◇ **Teaching Assistant** - University of Bremen December 2024–now
- ◇ **Doctoral Student** - University of Bremen December 2024–now

Education

PhD in Computer Science

UNIVERSITY OF BREMEN

Bremen, Germany

Dec 2024 - now

- Supervisor: [Prof. Rainer Koschke](#)

Master of Science in Computer Science (Data Science and Engineering)

UNIVERSITY OF GENOVA

Genova, Italy

Sep 2021 - July 2024

- GPA: 106/110
- Thesis Grade: 10/10
- Thesis title: [Edge Computing in Healthcare Using Machine Learning: A Systematic Literature Review](#)
- Thesis Supervisors: [Prof. Daniele D'Agostino](#) ; [Prof. Giorgio Delzanno](#)
- Notable Scores: Data Warehousing(28/30), Internet Of Things(30/30), Topics In Computer Science(29/30), Multiagent Systems(27/30), Computer Games(28/30), Data Protection and Privacy (Trenta e Lode) Trenta e Lode= 30 with Honors.

Bachelor's Degree in Computer Engineering (Software Engineering)

UNIVERSITY OF BIRJAND

Birjand, Iran

Sep. 2016 - July 2021

- Overall GPA: 15.23/20, GPA of last two semesters: 17.24/20
- Thesis Grade: 20/20
- Thesis title: A Statistical Model to Assess the Team's Productivity in Agile Software Teams. Thesis Supervisor: [Samiyeh Khosravi](#)
- Notable Scores: Computer Digital System Design(17/20), Entrepreneurship(18.70/20), Research Methods and Presentation(20/20), Computer Networks(17/20), Operating Systems Lab(17.50/20), Physics 2(19.50/20), Fundamentals of Information Technology(20/20), Electrical Circuits I(19/20),Software Project(20/20), Data Communications(18/20), MATLAB Programming workshop(19/20),Design of Programming Languages(17.50/20), Internship(18/20), RealTime Embedded Systems(18/20), Foundations of Wireless Networks(18/20)

Diploma in Physics and Mathematics Discipline

IMAM HUSSEIN HIGH SCHOOL

Torbat Heydarieh, Iran

2012 - 2016

- GPA: 17.11/20

Honors and Awards

- 2021 **Talented student (based on research)**, Recognized by the University of Birjand, [Certificate](#)
- 2025 **IOP Trusted Reviewer**, Recognized by IOP Publishing, [Certificate](#)

Birjand, Iran

Teaching Assistant Experience

AI Algorithms: Theory and Engineering

Bremen, Germany

Winter Semester 2024/2025; Winter

Semester 2025/2026

UNIVERSITY OF BREMEN

- Lecturer: [Professor Nico Hochgeschwender](#)
- Course Level: Master's Program
- Course Overview: The course focuses on the theoretical foundations and engineering applications of AI algorithms. Topics include machine learning, software engineering, recommendation systems, and AI in real-world applications.
- My Role: I support the course through lab sessions, create and grade assignments, give feedback, and support students with their coursework and projects.

Software Engineering for Cognitive Robots

Bremen, Germany

Summer semester 2025

UNIVERSITY OF BREMEN

- Lecturer: [Professor Nico Hochgeschwender](#)
- Course Level: Master's Program
- Course Overview: This course provides an in-depth exploration of software engineering for cognitive robots, focusing on key challenges such as safety, robustness, and adaptability. Students will gain the ability to apply relevant standards, decompose cognitive functions, and develop robust control architectures, while learning to evaluate and test cognitive robots effectively.
- My Role: I support the course through lab sessions, create and grade assignments, give feedback, and support students with their coursework and projects.

Software Project

Bremen, Germany

Winter Semester 2025/2026

UNIVERSITY OF BREMEN

- Lecturer: [Dr. Karsten Hölscher](#)
- Course Level: Bachelor's degree programs
- Course Overview: The world around us is becoming more "digital" every day. Software and software engineering play a crucial role in this. In this course, we decided to explore the "engineering" process of creating a large software system, from requirements gathering and design to testing and, of course, implementation.
- My Role: The students were required to complete a software project. My responsibility was to supervise two teams, each consisting of six members. The teams were expected to deliver the prototype, data model, implementation, and other project components. I held weekly meetings with the teams to monitor their progress and provide guidance.

Research Assistant Experience

Research Assistant

Birjand, Iran

2018 - 2021

DEPARTMENT OF COMPUTER ENGINEERING, UNIVERSITY OF BIRJAND.

- Directors: [Samiyeh Khosravi](#); [Dr Mohammad Ghasemi-Gol](#)

Publication

My research is concentrated in two areas: The first one is [Software Engineering](#). The second one is [Artificial Intelligence and its applications](#).

Papers related to Software Engineering

1. Ali Rezaei Nasab, Mojtaba Shahin, Seyed Ali Hoseyni Raviz, Peng Liang, **Amir Mashmool** and Valentina Lenarduzzi. "An Empirical Study of Security Practices for Microservices Systems." Journal of Systems and Software (2022) 111563. DOI:10.1016/j.jss.2022.111563
Journal Information: Name: Journal of Systems and Software, ISSN: 0164-1212, Impact Factor: 3.514, Journal Ranking: Q1
2. Javdani Gandomani, T.; **Mashmool, A.**; Dashti, M.; Khosravi, S.; Najafi Sarpiri, M.; Radnejad, M.; Afshari, M.; Mansouri, S.; "Talent management in agile software development: The state of the art", Published in: 2021 3rd East Indonesia Conference on Computer and Information Technology (EIconCIT), DOI:10.1109/EIconCIT50028.2021.9431902
3. **Mashmool, A.**; Khosravi, S.; Joloudari, J.H.; Inayat, I.; Javdani Gandomani, T.; Mosavi, A.; "A Statistical Model to Assess the Team's Productivity in Agile Software Teams". Published in IEEE conference CANDO2021. DOI: 10.1109/CANDO-EPE54223.2021.9667902

Papers Related to AI and Application of AI

1. J. Hassannataj Joloudari, M. Haderbadi, **A. Mashmool**, M. Ghasemigol, S. S. Band and A. Mosavi, "Early Detection of the Advanced Persistent Threat Attack Using Performance Analysis of Deep Learning". Published in IEEE Access, vol. 8, pp. 186125-186137, 2020, DOI:10.1109/ACCESS.2020.3029202. Journal Information: Name: IEEE Access, ISSN: 21693536, Impact Factor: 3.514, Journal Ranking: Q1
2. Habibi, Hossein, Abbas Rasoolzadegan, **Amir Mashmool**, Shahab S. Band, Anthony Theodore Chronopoulos, and Amir Mosavi. "SaaSRec+: a new context-aware recommendation method for SaaS services." Mathematical Biosciences and Engineering 19, no. 2 (2022): 1471-1495. DOI: 10.3934/mbe.2022068
Journal Information: Name: Mathematical Biosciences and Engineering, ISSN: 15471063, Impact Factor: 2.1, Journal Ranking: Q2
3. Javad Hassannataj Joloudari, Sanaz Mojrian, Issa Nodehi, **Amir Mashmool**, Zeynab Kiani Zade-gan, Sahar Khanjani Shirkharkolaie, Roohallah Alizadehsani, Tahereh Tamadon, Samiyeh Khosravi, Mitra Akbari Kohneshari, Edris Hassannatajjeloudari, Danial Sharifrazi, Amir Mosavi, Hui Wen Loh, Ru-San Tan and U Rajendra Acharya. "Application of artificial intelligence techniques for automated detection of myocardial infarction: a review" Published in Physiological Measurement journal. DOI: 10.1088/1361-6579/ac7fd9
Journal Information: Name: Physiological Measurement, ISSN: 09673334, Impact Factor: 2.6, Journal Ranking: Q2

Preprint

1. Qamar, Nosheen, Nosheen Sabahat, **Amir Mashmool**, and Amir Mosavi. "Evaluating the Impact of Pair Documentation on Requirements Quality and Team Productivity." arXiv preprint arXiv:2304.14255 (2023). DOI:10.48550/arXiv.2304.14255
2. Shafiezadeh, B., **Mashmool, A.**, Eshghi, F. and Kelarestaghi, M., 2025. A New Hybrid Model of Generative Adversarial Network and You Only Look Once Algorithm for Automatic License-Plate Recognition. arXiv preprint arXiv:2509.06868.

Review Experience

All peer-review activities listed in this section have been verified by the Web of Science database. The complete list of these reviews is available through my ORCID profile under the Peer Review section.

Journal **IEEE**,

Reviewer for the IEEE Access Journal, Certificate

Journal **Elsevier**,

Reviewer for the SoftwareX Journal, Certificate

Reviewer for the Software Impacts Journal, Certificate

Journal **IOPscience**,

Reviewer for the Biomedical Physics & Engineering Express Journal,

Reviewer for the Engineering Research Express Journal,

Journal **Frontiers**,

Reviewer for the Frontiers in Computer Science (Software),

Academic Projects

Bachelor Course Project

Design and Implementation of a Game (Passing a Pedestrian from the Street), using C++, Fundamentals of Programming Course, Supervisor: Dr. H. Saadatfar

Design and Implementation of a Dictionary and finding misspelling words Using C++,Advance programming course, supervisor:Mr.Mohammad Sadegh navabi

Design and Implementation of a project about some mathematic data Engineering, Statistics & Probability course, using SPSS, supervisor: D.r Mahdi forouzanfar

Design and doing a lot of tasks with max plus and ISE software Also Having a presentation about using FPGA in smart Home(BMS), Digital System Design course, supervisor: Dr Mehran Taghipour-Gorjilaie

Master Course Project

Design and Implementation of a smart garden,to accomplish the project, we used Wokiw for simulation, MQTT as a broker, Vue.js for historical data visualization, Node.js as a Js client application, and Ubidots as a user dashboard.Internet Of Things course, Supervisors: Professor Giorgio Delzanno, Professor Davide Ancona. available at Github

Design and Implementation of a website using d3.js. This project is for visualizing different aspects of the Trento tree dataset. The website aims to provide readable and appealing visualizations for the reader. Data visualization course, Supervisors: Professor Annalisa Barla. available at Github

Implementation of Naive Bayes algorithm. Machine Learning course. Supervisors: Professor Nicoletta Noceti, Professor Lorenzo Rosasco. available at Github

Implementation of MASK algorithm (Mining Associations with Secrecy Konstraints).data protection and privacy course. Supervisors: Professor Alessio Merlo, Francesco Pagano. available at Github

Technical Experience

Part Software Group

Mashhad, Iran

SOFTWARE DEVELOPMENT INTERNSHIP

2019

- Working on projects using the following technologies: HTML/HTML5, CSS/CSS3, SASS, Node.js.

Professional Skills

Programming Tools and Languages C/C++,Python, Visual Studio Code

Web/DB Technologies HTML, CSS, JavaScript

Operating System Linux (Ubuntu), Windows

Typesetting TEX, LATEX, Microsoft Word

Reference Management Tools EndNote

Technologies Network+, Max plus

Other Excellent communication skills, encouraging teammate, keen interest in research

Activities, Memberships, Certificates

- Participant - The Summer School on Empirical Research Methods in Software Engineering and Informatics (ERMSEI) , Rennes, France. Certificate September 2025
- ACM Staff in 7th ACM programing Contest,University of Birjand May 2018
- Member of Computer Scientific Association,University of Birjand 2016-2018
- Member of the International Association of Engineers (IAENG)
- Professional Scrum Foundation, Iran Scrum Institute, Credential URL
- Certificate of Participation - IEEE Conference Certificate
- Certificate Of Paper Presentation - IEEE Conference Certificate

Language Proficiency

Persian (Native), English (Fluent), Arabic (Familiar)

English, Fluent in Reading, Fairly Good in Speaking, Comprehension and Writing.

Hobbies

References

Prof. Rainer Koschke (Full Professor)

Department of Computer Science, University of Bremen, Germany; mghasemi@odu.edu

Prof. Mohammad GhasemiGol (Associate Professor)

Department of Computer Science, School of Cybersecurity, Old Dominion University (ODU), USA; mghasemi@odu.edu

Prof. Giorgio Delzanno (Full Professor)

DIBRIS, University of Genova, Italy; giorgio.delzanno@unige.it

Prof. Daniele D'Agostino (Associate Professor)

DIBRIS, University of Genova, Italy; daniele.dagostino@unige.it

Prof. Taghi Javdani Gandomani (SMIEEE, Assistant Professor)

University of Shahrekord, Iran; javdani@sku.ac.ir

Mr. Javad Hassannataj Joloudari (Senior Researcher of AI)

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javad.hassannataj@birjand.ac.ir, javad.hasannataj@gmail.com