

# Mazen Mohamad

✉ mazenmhd@gmail.com

🌐 <https://www.linkedin.com/in/mazen-mohamad-5463a39/>

☎ +46 704 19 16 13

🏠 Gibraltargatan 106 - Göteborg



## Employment History

- 2023 – present **Researcher** RISE Research Institutes of Sweden.  
Dependable transport Systems unit with the Department of Electrification and Dependability.
- 2018 – present **Lecturer** Chalmers University of Technology, Department of Computer Science and Engineering.  
Courses: Master and Bachelor theses supervision, Data Management, and Software Engineering Principles for Complex Systems.
- 2018 – 2023 **PhD candidate in Software Engineering** Chalmers and Gothenburg University, Department of Computer Science and Engineering.  
The thesis project (CASUS) focuses on security assurance in automotive open systems.
- 2016 – 2018 **Business Analyst** Volvo Cars, Gothenburg - Sweden.  
Responsible for the PIE applications used for software updates. Worked closely with other aftermarket and R&D product teams including VIDA and KDP.
- 2014 – 2014 **Mobile App Team Lead** Syriatel Mobile Telecom, Damascus - Syria.  
Leading the mobile app development team in creating Android and IOS mobile apps.
- 2013 – 2014 **Oracle DB Administrator** Syriatel Mobile Telecom, Damascus - Syria.  
Responsible for the creation, administration, and maintenance of the databases required for development, testing and production usage.
- 2012 – 2013 **System Analyst** TeachArabia, Damascus - Syria.  
System Analysis for various UNDP projects.
- 2010 – 2012 **Development Team Lead** Bank of Syria and Overseas, Damascus - Syria.  
Leading the development team to design and develop software for the banking system.
- 2007 – 2010 **Application Specialist** Syriatel Mobile Telecom, Damascus - Syria.  
Full-stack development of GIS and Mobile application systems.

## Education

- 2018 – 2023 **Doctor of Philosophy, University of Gothenburg** Computer Science and Engineering - Software Engineering.  
Thesis title: *Understanding, Implementing, and Supporting Security Assurance Cases in Safety-Critical Domains*
- 2018 – 2021 **Licentiate of Philosophy, University of Gothenburg** Computer Science and Engineering - Software Engineering.  
Thesis title: *Towards Understanding and Applying Security Assurance Cases for Automotive Systems*
- 2014 – 2016 **M.Sc. Computer Science, Chalmers** in Software Engineering.  
Thesis title: *Leveraging Social Networks Constructed from System Engineering Repositories.*
- 2011 – 2013 **MBA, Heriott-Watt University** Master of Business Administration.  
Completed modules include Accounting, Finance, Economics, and Project Management.
- 2002 – 2007 **B.Sc. Computer Science, Damascus University** A five years bachelor program in Information Technology with a specialization in Software Engineering.

## Research Publications

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### Journal Articles

- 1 Mohamad, M., Jolak, R., Askerdal, Ö., Steghöfer, J.-P., & Scandariato, R. (n.d.). Cascade: An asset-driven approach to build security assurance cases for automotive systems. *ACM Transactions on Cyber-Physical Systems*.
- 2 Jolak, R., Rosenstatter, T., Mohamad, M., Strandberg, K., Sangchoolie, B., Nowdehi, N., & Scandariato, R. (2021). Conserve: A framework for the selection of techniques for monitoring containers security. *Journal of Systems and Software*, 111158.
- 3 Mohamad, M., Steghöfer, J.-P., & Scandariato, R. (2021). Security assurance cases—state of the art of an emerging approach. *Empirical Software Engineering*, 26(4), 1–43.
- 4 Mohamad, M., Liebel, G., & Knauss, E. (2017). Loco coco: Automatically constructing coordination and communication networks from model-based systems engineering data. *Information and Software Technology*, 92, 179–193.

### Conference Proceedings

- 1 Mohamad, M., Steghöfer, J.-P., Åström, A., & Scandariato, R. (2022). Identifying security-related requirements in regulatory documents based on cross-project classification. In *Proceedings of the 18th international conference on predictive models and data analytics in software engineering* (pp. 82–91).
- 2 Samoaa, H. P., Longa, A., Mohamad, M., Chehreghani, M. H., & Leitner, P. (2022). Tep-gnn: Accurate execution time prediction of functional tests using graph neural networks. In *Product-focused software process improvement: 23rd international conference, profes 2022, jyväskylä, finland, november 21–23, 2022, proceedings* (pp. 464–479). Springer.
- 3 Mohamad, M., Askerdal, Ö., Jolak, R., Steghöfer, J.-P., & Scandariato, R. (2021). Asset-driven security assurance cases with built-in quality assurance. In *2021 ieee/acm 2nd international workshop on engineering and cybersecurity of critical systems (encycris)* (pp. 1–8). IEEE.
- 4 Steghöfer, J.-P., Koopmann, B., Becker, J. S., Törnlund, M., Ibrahim, Y., & Mohamad, M. (2021). Design decisions in the construction of traceability information models for safe automotive systems. In *2021 ieee 29th international requirements engineering conference (re)* (pp. 185–196). IEEE.
- 5 Mohamad, M., Åström, A., Askerdal, Ö., Borg, J., & Scandariato, R. (2020). Security assurance cases for road vehicles: An industry perspective. In *Proceedings of the 15th international conference on availability, reliability and security* (pp. 1–6).

### Dissertations

- 1 Mohamad, M. (2023). *Understanding, implementing, and supporting security assurance cases in safety-critical domains*.
- 2 Mohamad, M. (2021). *Towards understanding and applying security assurance cases for automotive systems*.
- 3 Mohamad, M. (2016). *Leveraging social networks constructed from system engineering repositories*.


### Skills

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| Languages | 📖 Strong reading, writing and speaking competencies for English, Swedish and Arabic (mother tongue).                  |
| Coding    | 📖 Experienced in multiple programming languages including Java, C#, Python, SQL, L <sup>A</sup> T <sub>E</sub> X, ... |
| Databases | 📖 Oracle, SQL Server, MySQL.  |

## Skills (continued)







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Misc.     Academic research, teaching, training, consultation.







## Miscellaneous Experience

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### Teaching

- 2023 – 2023     **Agile Development Processes**, Master Course at Chalmers.
- 2022 – 2022     **Agile software project management**, Bachelor Course at Chalmers.
-  **Secure Software Engineering**, Master Course at Hamburg University of Technology (guest lecturer).
- 2018 – 2022     **Software Engineering Principles for Complex Systems**, Bachelor Course at Chalmers.
- 2018 – 2021     **Advanced Software Architecture**, Master Course at Chalmers.
- 2018 – 2023     **Master and Bachelor Theses Supervision**, Chalmers and Gothenburg University.

### Certification

- 2023     **ISO/SAE 21434 - Cybersecurity for Road Vehicles Standard** Awarded by RISE Research Institutes of Sweden.
-  **ISO 26262 - Road vehicles – Functional safety Standard** Awarded by RISE Research Institutes of Sweden.
- 2017     **Professional Scrum Master I (PSM I)** Awarded by Scrum.org.
- 2013     **Oracle Certified Developer**. Awarded by Oracle.
-  **Oracle Certified Administrator**. Awarded by Oracle.
- 2012     **Project Management Professional**. Awarded by by PMI.org 2012-2018.

## References

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**Dr. Jan Philipp Steghöfer**

Xitaso,

jan-philipp.steghoefer@xitaso.com

**Dr. Rodi Jolak**

RISE,

rodi.jolak@ri.se