



# Mohammad Arjomandi Rad

PhD student in Product Development

Passionate about turning research into practical applications. I am specialized in leveraging advanced technologies and methodologies, such as AI, Machine learning, and digital twin technology, to optimize the product development processes. I'm always keen to collaborate, learn, and share insights within the realm of product development.



Iranian 36-years old Driver License - B

+46 (0)79 033 5053  
arjomandirod@gmail.com  
Doktor Forselius Backe 42, 41326 GÖTEBORG

## Interests

Machine vision, Artificial Neural Networks, Optimization, and Decision making, Data mining on CAD/CAE Design Automation, Knowledge Base Engineering, System engineering

## Languages

Persian ..... Native language  
English ..... Full working proficiency – C1  
Swedish ..... Working proficiency - B2  
Turkish ..... Native language

## Skills

### Mechanical

Solid Works, CATIA, ABAQUS, LS-Dyna, ANSA/BETA, Fusion 360, and NX, Rhino, Grasshopper, Node-RED, modeFRONTIER, Isight

### Python

Machine Learning and AI Libraries (TensorFlow, Keras, OpenCV, Pandas), Databases (SQL, MangoDB), Image Processing and Web Scrapping,

### Other

AzureML and DevOps, Git knowledge, VB.net, VBA(Macro), MATLAB, Julia, Use of API's

### General

Linux environments, Cloud Computing, 3Dprinting (CURA), Maple, JMP, LaTeX

## References available upon request

“SHOULD YOU NEED FURTHER INFORMATION, DO NOT HESITATE TO CONTACT ME”

## Work Experiences Summary

- Autoliv AB** Member of the research project 'Butterfly Effect' 2020-2022 | Vårgårda, Sweden
  - Worked with FEM automation for airbag volume simulation. Modeled FE results in Grasshopper.
  - Built machine learning library with input from CAD and applied CNNs and SGD. Reduced design process lead time by creating image regression surrogate models.
  - Suggested alternative geometric representation in CAD for data mining and increased machine learning accuracy.

**Several local companies in Iran** Design engineer 2012-2016 | Tabriz, Iran  
Analysis of equipment and parts with software ABAQUS. Used AutoCAD, Solid Works, and Moldflow for modeling and simulating mechanical components. Prepared as-built drawings and hands on in manufacturing machines.

## Latest Education

**Chalmers Tekniska Högskolan** Product development, PhD student  
2022-now | Göteborg, Sweden Industrial and Material Science Department  
Applying data science methods in system engineering design with the aim of reducing development lead time.

Supervisor and examiner: Dr. Massimo Panarotto and Prof. Ola Isaksson

**Jönköping University** Licentiate degree, Machine Design

2019-2022 | Jönköping, Sweden Department of Industrial Product Development, Production and Design

Data-Driven and Real-Time Prediction Models for Highly Iterative Product Development Processes

Supervisor and examiner: Dr. Roland Stolt and Prof. Fredrik Elgh

**Iran University of Science and Technology** M.Sc., Automotive Engineering

2016-2018 | Tehran, Iran Department of Automotive Engineering

## Selected Publications

- Arjomandi Rad, M.** and Salomonsson, K. Cenanova, (2022) “Image regression-based digital qualification for simulation-driven design processes, case study on curtain airbag” *Journal of Engineering Design* <https://doi.org/10.1080/09544828.2022.2164440>
- Arjomandi Rad, M.** and Salomonsson, K. Cenanova, M. Balague, H. Raudberget, D. Stolt, R. (2022) “Correlation-based feature extraction from computer-aided design, case study on curtain airbags design” *Computers in Industry* <https://doi.org/10.1016/j.compind.2022.103634>
- Hosseini, S.M. **Arjomandi Rad, M.** Khalkhali, A. Saranjam, M.J. (2019) “Optimal design of the S-rails for an automotive platform with novel modifications on product-family optimization process” *Journal of thin-walled structures.* <https://doi.org/10.1016/j.tws.2019.01.046>
- Mohammad Arjomandi Rad,** and Abolfazl Khalkhali. (2018) “Crashworthiness multi-objective optimization of the thin-walled tubes under probabilistic 3D oblique load” *Materials & Design.* <https://doi.org/10.1016/j.matdes.2018.07.008>

## Teaching Experiences

- Product planning and Product development** Chalmers Tekniska Högskolan
- Data science in product realization** Chalmers Tekniska Högskolan
- Computer programming for design automation** Jönköping University
- Computer-supported engineering design Lab assistant** Jönköping University
- Finite Element and Optimization course teaching assistant** Iran University of Science and Technology