

# Maryam Tavakol

Machine Learning group,  
Institute of Electronic Business Processes,  
Leuphana Universität Lüneburg,  
Scharnhorststr.1, C4.308a,  
21339 Lüneburg,  
Germany

**Phone:** +49.4131.677-2024  
**E-mail:** [tavakol@cs.tu-darmstadt.de](mailto:tavakol@cs.tu-darmstadt.de)  
[tavakol@leuphana.de](mailto:tavakol@leuphana.de)  
**Website:** <http://ml3.leuphana.de/maryam.html>

## Education

---

- **PhD**, Computer Science – Machine learning **Sep. 2013 - Present**
  - Department of Computer Science, Technische Universität Darmstadt, Darmstadt, Germany.
  - Thesis: Recommender Systems and Personalization.
  - Supervisor: Prof. Ulf Brefeld
- **M.Sc.**, Artificial Intelligence and Robotics **Sep. 2010 – March 2013**
  - Department of Electrical and Computer Engineering, University of Tehran, Tehran, Iran.
  - Thesis: Design a Distributed Learning System with Multiple Reward Sources.
  - Advisor: Prof. Majid Nili Ahmadabadi.
  - GPA: **18.64/20**.
- **B.Sc.**, Computer Engineering – Software **Sep. 2006 – Sep. 2010**
  - Department of Electrical and Computer Engineering, University of Tehran, Tehran, Iran.
  - Thesis: Efficient Routing in a Distributed Real-Time System.
  - Advisor: Dr. Mehdi Kargahi
  - GPA: **17.04/20**.
- **High School Diploma**, Mathematics and Physics **Sep. 2002 – June. 2006**
  - Fatemeh Zahra High School, Meimeh, Isfahan, Iran.
  - GPA: **19.72/20**

## Honors and Achievements

---

- Recipient of PhD scholarship from the Electrical and Computer Engineering Department, University of Waterloo, Canada, **Summer 2013**

- Recipient of Zalando Scholarship for PhD study from the Computer Science Department, Technische Universität Darmstadt, Germany, **Spring 2013**
- Ranked first among graduate students in Artificial Intelligence and Robotics (GPA: 18.64/20), **Spring 2013**
- 3<sup>rd</sup> rank in National Graduate Entrance Exam – Software Engineering, **Spring 2010**
  - 11<sup>th</sup> rank in Artificial Intelligence field.
- Top 10% of Computer Engineering students who were admitted by University of Tehran for Computer Engineering graduate studies, **Spring 2010**
  - Ranked 5 over 70 students (GPA: 17.04/20).
- Top 0.07% of the Nationwide Matriculation Exam – Mathematics & Physics, **Summer 2006**
  - Ranked 348 among more than 500,000 participants.

### *Publication*

---

- **M. Tavakol**, H. Zafartavanaelmi, and U. Brefeld, “Feature Extraction and Aggregation for Predicting the Euro 2016”, Submitted on Workshop of Sport Analysis, ECML 2016.
- **M. Tavakol** and U. Brefeld, “Factored MDPs for Detecting the Topic of User Sessions”, Proceedings of the ACM Conference on Recommender Systems, 2014.
- **M. Tavakol**, M. N. Ahmadabadi, M. Mirian, and M. Asadpour, “A Distributed Q-Learning Approach for Variable Attention to Multiple Critics”, International Conference on Neural Information Processing (ICONIP 2012)

### *Research Interests*

---

- Machine Learning and Pattern Recognition
- Reinforcement Learning
- Bio Inspired Intelligent Systems
- Psychology of Human Learning and Decision Making
- Statistical Inference
- Cognitive Science and Brain Understanding
- Applications of Machine Learning in Real Problems

### *Research and Practical Experiences*

---

- Research assistant in Machine Learning group of Leuphana Universität Lüneburg, **Feb 2016 - Present**
- Research intern in Recommendation group at Criteo company, Paris area, **Aug 2015 – Jan 2016**

- M.Sc and B.Sc. thesis supervision in the area of Machine Learning and Recommendation, **Fall 2013 - Present**
  - Research assistant in Knowledge Mining and Assessment Lab. in the domain of Recommender Systems and Personalization, **Fall 2013-Spring 2015**
  - Working on two projects, Persian OCR system and license plate recognition system, in Sepanta Robotics Research Foundation Company, **Spring 2012-Summer 2013**
  - Research assistant in Cognitive Robotic Lab for improving RL methods compatible with human learning and decision making, **Summer 2011-Spring 2013**
  - Implementing a Facebook application in order to analysis of social networks, Social Network Course, **Spring 2012**
  - Improving eye detection and localization algorithms using machine vision and image processing methods, Machine Vision Course, **Fall 2011**
  - Implementation of robot localization algorithm using particle filter with E-puck, Advanced Robotics Course, **Spring 2011**
  - Improving RRT method of motion planning using OMPL library, Advanced Robotics Course, **Spring 2011**
  - Design a snake robot with internal control using Bioloid pack, Distributed Artificial Intelligence Course, **Spring 2011**
  - Improving community detection methods in weighted and directed graph using Ant Colony Optimization algorithms, Bio Computing Course, **Fall 2010**
  - Comparison of behaviors of agents with different characteristics in reinforcement learning, Machine Learning Course, **Fall 2010**
  - Simulation of routing methods in a distributed real-time system using Truetime Simulator (Matlab-based), **Summer 2010**
  - Implementation of an online ticket selling system with SQLServer using Java, Software Laboratory, **Spring 2010**
  - Design and implementing a packet sniffer (packet analyzer) Linux platform using C, Computer Network Course, **Fall 2009**
  - Implementation of a web based online food ordering software using JavaServlet, Internet Engineering Course, **Spring 2009**
  - Implementing a synchronizer application over network in Linux, Operating System Course, **Fall 2008**
  - Design an AVR microcontroller for reading/writing from/on a SD-card, Micro Processor Course, **Fall 2008**
  - Implementing a Java application for pagination advertisements of *Hamshahri* newspaper, Data Structure Course, **Fall 2007**
  - Implementing a game over network based on parallel processing in C++ under Linux, Advanced Programming Course, **Spring 2007**
-

## Teaching Experiences

---

- Intelligent Data Analysis, Teaching Assistant, Department of Electronic Business Processes, Leuphana Universität Lüneburg, **Summer 2016**
- Mining Facebook, Teaching Assistant, Department of Computer Science, Technische Universität Darmstadt, **Fall 2014**
- Recommender Systems Seminar, Teaching Assistant, Department of Computer Science, Technische Universität Darmstadt, **Fall 2014**
- Pattern Recognition, Teaching Assistant, Department of Electrical and Computer Engineering, University of Tehran, **Fall 2012**
- Advanced Robotics, Teaching Assistant, Department of Electrical and Computer Engineering, University of Tehran, **Spring 2012**
- Intelligent Systems, Teaching Assistant, Department of Electrical and Computer Engineering, University of Tehran, **Spring 2012**, Recipient of outstanding TA award
- Pattern Recognition, Teaching Assistant, Department of Electrical and Computer Engineering, University of Tehran, **Fall 2011**
- Programming Languages, Teaching Assistant, Department of Electrical and Computer Engineering, University of Tehran, **Fall 2009**
- Advanced Programming, Teaching Assistant, Department of Electrical and Computer Engineering, University of Tehran, **Spring 2008**
- Private Programming Tutoring
- Private Undergraduate Courses Tutoring

## Programming Skills

---

- Professional in C/C++, Java, Python, and c# programming
  - Expert in Matlab programming
  - Good at working with OpenCV Image Processing Library
  - Familiar with 8086 assembly, Verilog
  - Good at Web design and programming (J2EE, JavaScript, jsp)
  - Experienced in Database design and management (MySQL, MS SQL Server)
  - Familiar with Hardware simulation: Modelsim, Quartus II, Proteus
  - Experienced in Apache Tomcat Web Server
  - Experienced in Microcontroller programming
  - Familiar with object oriented programming
  - Very good knowledge of Linux
-

## *Others*

---

- Selective reviews: NIPS, KDD, ECML, WSDM.
- Volunteer member in “Women in Computer Science” association, Technische Universität Darmstadt, since Fall 2014.
- Attending to the Reykjavik summer school in Machine Learning, MLSS 2014.
- Passing the online Machine Learning Course in Stanford University, and receiving a statement of accomplishment for the advanced track, Fall 2011.

## *Language Skills*

---

- Persian, Native
- English, Fluent
- German, Basic
- French, Familiar