MARYAM TAVAKOL

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RESEARCH INTERESTS

Reinforcement Learning and Multi-armed Bandits, Recommendation Systems, Deep Learning, Counterfactual Learning, Fairness-aware Learning, and Application of Machine Learning in Real-World Problems.

EDUCATION

Technical University of Darmstadt, Darmstadt, Germany
Doctor of Philosophy in Computer Science, Machine Learning   September 2013 – April 2019
Thesis: "Contextual Models for Sequential Recommendation"

University of Tehran, Tehran, Iran
Master of Science in Artificial Intelligence, GPA: 18.64/20 (ranked 1st)   September 2010 – March 2013
Thesis: "A Distributed Learning System with Multiple Reward Sources"

University of Tehran, Tehran, Iran
Bachelor of Science in Computer Engineering, GPA: 17:04/20 (top 10%)   September 2006 – September 2010
Thesis: "Efficient Routing in Distributed Real-Time Systems"

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher in Artificial Intelligence Group   March 2019 – Present
Technical University of Dortmund, Dortmund, Germany

Research Assistant in Machine Learning Group,   February 2016 – February 2019
Leuphana University of Lüneburg, Lüneburg, Germany

Research Assistant in Knowledge Engineering Group,   November 2016 – July 2017
Technical University of Darmstadt, Darmstadt, Germany

Research Intern in **Criteo Co.,** Paris, France   August 2015 – January 2016

Teaching Assistant in Knowledge Mining and Assessment Group,   January 2015 – April 2015
Technical University of Darmstadt, Darmstadt, Germany

Research Assistant in Knowledge Mining and Assessment Group,   September 2013 – July 2015
Technical University of Darmstadt, Darmstadt, Germany

Junior Reasercher in **Sepanta Co.,** Tehran, Iran   June 2012 – August 2013

PUBLICATIONS

1. **M. Tavakol**, "Toward Fair Models with Counterfactual Learning," International Workshop on Explainability for Trustworthy ML Pipelines (under review).
2. U. Dick, **M. Tavakol**, and U. Brefeld, "Rating Actions in Spatial Multi-Agent Problems," Machine Learning Journal (under review).
3. H. Zafar, **M. Tavakol**, and J. Lehmann, "Distantly Supervised Question Parsing," European Conference on Artificial Intelligence, ECAI 2020.
4. **M. Tavakol**, S. Mair, and K. Morik, "HyperUCB: Hyperparameter Optimization using Contextual Bandits," ECML Workshop on Automated Data Science, 2019.
5. **M. Tavakol**, "Contextual Models for Sequential Recommendation," Dissertation, Technische Universität Darmstadt, 2019.
6. **M. Tavakol**, T. Joppen, U. Brefeld, and J. Fürnkranz, "Personalized Transaction Kernels for Recommmendation via MCTS," KI 2019.
7. R. Gaonkar, **M. Tavakol**, and U. Brefeld, "MDP-based Itinerary Recommendation using Geo-Tagged Social

Media," International Symposium on Intelligent Data Analysis, IDA 2018.

8. **M. Tavakol** and U. Brefeld, "A Unified Contextual Bandit Framework for Long- and Short-Term Recommendations," Joint European Conference on Machine Learning and Knowledge Discovery in Databases, ECML 2017.

9. **M. Tavakol** and U. Brefeld, "A Preference-Based Bandit Framework for Personalized Recommendation," DA2PL 2016.

10. **M. Tavakol**, H. Zafartavanaelmi, and U. Brefeld, "Feature Extraction and Aggregation for Predicting the Euro 2016," Proceedings of the ECML Workshop on Sport Analysis, 2016.

11. **M. Tavakol** and U. Brefeld, "Factored MDPs for Detecting the Topic of User Sessions," Proceedings of the ACM Conference on Recommender Systems, RecSys 2014.

12. **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.

TEACHING EXPERIENCE

1. **Technical University of Dortmund,** Dortmund, Germany
   Lecturer in Recommender Systems Seminar — Fall 2019
   Teaching Assistant in Computer Vision — Spring 2019

2. **Leuphana University of Lüneburg,** Lüneburg, Germany
   Teaching Assistant/Lecturer in Data Mining Seminar — Spring 2017, Spring 2018
   Lecturer in Introduction to Python Programming — Fall 2016, Fall 2018
   Teaching Assistant/Lecturer in Recommender Systems Seminar — Fall 2016, Fall 2017, Fall 2018
   Teaching Assistant in Intelligent Data Analysis — Spring 2016

3. **Technical University of Darmstadt,** Darmstadt, Germany
   Teaching Assistant in Mining Facebook — Spring 2015
   Teaching Assistant in Recommender Systems Seminar — Fall 2014

4. **University of Tehran,** Tehran, Iran
   Teaching Assistant in Advanced Robotics — Spring 2012
   Teaching Assistant in Intelligent Systems — Spring 2012
   Teaching Assistant in Pattern Recognition — Fall 2011, Fall 2012
   Teaching Assistant in Programming Languages — Fall 2009
   Teaching Assistant in Advanced programming — Spring 2008

CERTIFICATES AND AWARDS

1. ICML 2018 student travel award, Stockholm, July 2018.
2. Google inside look certificate, Zurich, September 2016.
3. Certificate for attending the Machine Learning summer school, Reykjavik, Iceland, May 2014.
4. PhD scholarship recipient from University of Waterloo, Canada, August 2013.
5. PhD scholarship recipient from Technical University of Darmstadt, Germany, April 2013.
6. Statement of accomplishment for online Machine Learning Course (advanced track), Stanford University, December 2011.
7. Exceptional talent certificate and admission award for master program without participating in nationwide university entrance exam, University of Tehran, Iran, September 2010.
9. Ranked top 0.07% nationwide matriculation exam - 348th among 500,000, September 2006.

PROFESSIONAL ACTIVITIES AND SERVICES

Technical Program Committee:
1. International Conference on Machine Learning, ICML 2020.
2. European Conference on Machine Learning, ECML 2019.
3. Workshop on German Machine Learning and Data Mining, LWDA 2019.
Peer Reviewing:
1. International Conference on Learning Representations, ICLR 2019.

2. Neural Information Processing Systems, NIPS 2018, 2017, 2016, 2015, and 2014.
3. International Conference on Knowledge Discovery and Data Mining, KDD 2018, 2017, 2016, and 2014.
4. International Joint Conferences on Artificial Intelligence, IJCAI 2018 and 2015.
5. International Symposium on Intelligent Data Analysis, IDA 2018.
6. German Conference on Artificial Intelligence, KI 2018.
7. European Conference on Machine Learning, ECML 2017, 2016, and 2014.
8. International Conference on Machine Learning, ICML 2016.
9. Conference on Computational Natural Language Learning, CoNLL 2015.
10. International Conference on Web Search and Data Mining, WSDM 2014.

Membership:

Association for Computing Machinery (ACM)

Mentorship Experience:

1. Ekaterina Dolgovykh, graduate student	Winter 2018
2. Akath Singh Dua, undergraduate student	Summer 2016
3. Radhika Gaonkar, undergraduate student	Summer 2015 – Summer 2016
4. Divya Venugopalan, undergraduate student	Summer 2014
5. Qifeng Hu, undergraduate student	Summer 2014
6. Mario Herdt, graduate student	Winter 2013

TECHNICAL SKILLS

Programming languages	Python, C/C++, Java, C#, MATLAB
Tools	Tensorflow, OpenCV, mySQL, LaTeX, Git

LANGUAGES

Persian	Native
English	Full professional proficiency
German	Average Level (A2)

REFERENCES

Prof. Ulf Brefeld	Leuphana University of Lüneburg brefeld@leuphana.de
Prof. Johannes Fürnkranz:	Johannes-Kepler University Linz juffi@faw.jku.at
Dr. Uwe Dick	Leuphana University of Lüneburg uwe.dick@leuphana.de