

September, 2021

## Moshe Unger

Email: [mosheunger@tauex.tau.ac.il](mailto:mosheunger@tauex.tau.ac.il), [munger@stern.nyu.edu](mailto:munger@stern.nyu.edu),  
[moshunger@gmail.com](mailto:moshunger@gmail.com)

### Summary

Moshe holds B.Sc (Software Engineering), M.Sc (Software and Information Systems Engineering), and PhD. (Software and Information Systems Engineering) from Ben-Gurion University (BGU) of the Negev, Israel. His research work focuses on Personalization, Data Mining, Machine Learning and Recommender Systems with emphasis to context inference with deep learning techniques and its usage in recommender systems. He is currently a lecturer at the Collier School of Management, Tel Aviv University. He has recently finished a postdoctoral researcher position at NYU Stern School of Business and an associate research scientist at the NYU Stern Fubon Center of Technology, Business and Innovation.

### Research Interests

Recommendation systems, big data, machine learning, deep learning, cyber security.

### Education

2014 – 2019 PhD in Software and Information Systems Engineering, Ben-Gurion University, Israel.

2012 – 2014 MSc in Software and Information Systems Engineering, Ben-Gurion University, Israel.

2009 – 2012 BSc in Software Engineering, Ben-Gurion University, Israel.

### Work Experience

2021 – Today *Lecturer*  
Collier School of Management, Tel Aviv University

2020 – 2021 *Associate Research Scientist*  
NYU Stern Fubon Center for Technology, Business and Innovation

2018 – 2020 *Postdoctoral Researcher*  
New York University, Stern School of Business

2013 – 2018 *Research Assistant*  
Deutsche Telekom Innovation Laboratories, Beer-Sheva, Israel  
Cyber Security Research Center at Ben-Gurion University (BGU)

## Publications in Refereed Conferences

- Unger, M., Shapira, B., Rokach, L., & Bar, A. (2017, July). Inferring contextual preferences using deep auto-encoding. In Proceedings of the 25th Conference on User Modeling, Adaptation and Personalization (pp. 221-229). ACM.
- Bar, A., Shapira, B., Rokach, L., & Unger, M. (2016, December). Scalable attack propagation model and algorithms for honeypot systems. In *Big Data (Big Data), 2016 IEEE International Conference on* (pp. 1130-1135). IEEE.
- Bar, A., Shapira, B., Rokach, L., & Unger, M. (2016, June). Identifying Attack Propagation Patterns in Honeypots Using Markov Chains Modeling and Complex Networks Analysis. In *Software Science, Technology and Engineering (SWSTE), 2016 IEEE International Conference on* (pp. 28-36). IEEE.
- Unger, M., Shapira, B., Rokach, L., & Bar, A. (2016). Deep Auto-Encoding for Context-Aware Inference of Preferred Items' Categories. In RecSys Posters.
- Unger, M. (2015, September). Latent context-aware recommender systems. In Proceedings of the 9th ACM Conference on Recommender Systems (pp. 383-386). ACM.
- Unger, M., Bar, A., Shapira, B., Rokach, L., & Gudes, E. (2014, September). Contexto: lessons learned from mobile context inference. In Proceedings of the 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing: Adjunct Publication (pp. 175-178). ACM.

## Publications in Scientific Journals

- Unger, M., Tuzhilin, A., & Livne, A. (2020). Context-Aware Recommendations Based on Deep Learning Frameworks. *ACM Transactions on Management Information Systems (TMIS)*, 11(2), 1-15.
- Unger, M., & Tuzhilin, A. (2020). Hierarchical Latent Context Representation for Context-Aware Recommendations. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*.
- Unger, M., Shapira, B., Rokach, L., & Livne, A. (2018). Inferring contextual preferences using deep encoder-decoder learners. *New Review of Hypermedia and Multimedia*, 24(3), 262-290.
- Unger, M., Bar, A., Shapira, B., & Rokach, L. (2016). Towards latent context-aware recommendation systems. *Knowledge-Based Systems*, 104, 165-178.

## Work in Progress

- Unger, M., Cohen, B., Brost, B. & Tuzhilin, A. Multi-Objective Multi-Stakeholder Music Recommendation
- Unger, M., Li, P., Sen, S. & Tuzhilin, A. Don't Need All Eggs in One Basket: Reconstructing Universal Embeddings of Customers from Individual-Domain Embeddings
- Unger, M., Bauman, K. & Tuzhilin, A., HyperCARS: Using Hyperbolic Embeddings for Generating Hierarchical Contextual Situations in Context-Aware Recommender Systems

## Chapters in Books

- Gediminas Adomavicius, Konstantin Bauman, Alexander Tuzhilin and Moshe Unger. Context-Aware Recommender Systems: From Foundations to Recent Developments, Recommender systems handbook

## Conference Participation

- The 15th ACM Conference on Recommender Systems (RecSys), Amsterdam, Netherlands, 27th September-1st October 2021
- The 14th ACM Conference on Recommender Systems (RecSys), Online, Worldwide, September 22-26, 2020
- The 29th Workshop on information technologies and systems (WITS 2019), December 18-20, 2019, Munich, Germany
- International Conference on Information Systems (ICIS), December 15-18, 2019, Munich, Germany
- Conference on Information Systems and Technology (CIST), October 19-20, 2019 (Seattle, WA)
- The 13th ACM Conference on Recommender Systems (RecSys), Copenhagen, Denmark, September 16-20, 2019
- The 25th ACM Conference On User Modelling, Adaptation and Personalization (UMAP), Bratislava, 2018
- 11th ACM Conference on Recommender Systems (RecSys), Como, Italy, 2017
- 10th ACM Conference on Recommender Systems (RecSys), Boston, 2016
- 2016 IEEE International Conference on Software Science, Technology and Engineering (SWSTE), Israel
- 2016 IEEE International Conference on Big Data, Washington
- 9th ACM Conference on Recommender Systems (RecSys), 2015

- 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp), 2014

## Patents

- Recommendation System and Method for a Mobile Device Based on Raw Data Which is Collected from Sensors of the Mobile Device.
- A Method for Extracting Latent Context Patterns from Sensors.
- Designing Context Aware Recommendations Systems Based on Latent Contexts.
- Model for identifying attack propagation patterns in a monitored sensor-based system
- A method for classifying attack sources in cyber-attack sensor systems
- A prediction system configured for modeling the expected number of attacks on a computer or communication network

## Academic Services

Referee for MIS Quarterly (MISQ), Information Systems Research (ISR), International Conference on Information Systems (ICIS), IEEE Transactions on Knowledge and Data Engineering, Knowledge-Based Systems, Transactions on Data Science, RecSys, IEEE Access