Makbule Gulcin Ozsoy

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Interests

Recommender systems, Machine learning, Information retrieval

Work Experience

Meta (formerly Facebook)   *London, UK*
Software Engineer/Machine Learning Engineer   *January 2021 - Present*
- **Recommender Systems, Ranking (Python)**
    - Designed solutions for ranking and product recommendation in an e-commerce platform utilizing multiple machine learning techniques.
    - Designed modules for data preparation, feature extraction, model training/optimization and offline evaluation.
    - Proposed and implemented solutions to improve performance, resulting in a 5.5% increase (2022) and a 2.1% increase (first half of 2023).
- Served as a mentor, providing guidance to new hires within the company and the team, and successfully assisting seven mentees.

Insight Centre for Data Analytics, University College Dublin (UCD)   *Dublin, Ireland*
Postdoctoral Researcher   *February 2019 - January 2021*
- **Recommender Systems (Python)**
    - Designed and developed modules for recommenders systems.
    - Conducted research on Reinforcement Learning-based and Heterogeneous Information Networks-based recommendation systems, and published related work.
- Co-supervised and mentored students in the research group. Reviewed research papers for various journals.

Unscrambl LLC   *Ankara, Turkey*
Data Scientist   *October 2016 - February 2019*
- **Natural Language Processing (Python)**
    - Implemented the early versions of a chatbot application designed for use by financial institutions and banks.
    - Developed modules for Named Entity Recognition and intent classification for Turkish and English texts
- **Machine Learning (Python)**
    - Designed and developed modules for data pre-processing, analysis, model training, and evaluation.
    - Conducted batch data analysis and constructed predictive models to gain insights and address business issues, specifically in the telecom and finance industries.

T2 Yazilim   *Ankara, Turkey*
Software Engineer   *June 2012 - October 2016*
- **GUI Development (Java)**
    - Worked as a sub-contractor for another company, developing a graphical user interface for a desktop application using Java Swing.
- **Natural Language Processing (Java)**
    - Conducted sentiment analysis on short unstructured Turkish documents, developed NLP modules for the project.
- **Computer Networks (C++)**
    - Implemented inter-domain routing algorithms on Mobile Ad-Hoc Networks and created a performance-enhancing proxy for IP optimization on radio and satellite links

TUBITAK (Scientific and Technological Research Council of Turkey)   *Ankara, Turkey*
Researcher   *September 2009 - June 2012*
- **Computer Networks (C++)**
    - Worked in High Frequency radio communications domain.
    - Designed and developed a layered network protocol and clients for Stanag 5066.
    - Developed modules related to routing algorithms in ad-hoc networks.

HAVELSAN   *Ankara, Turkey*
Software Engineer   *June 2008 - September 2009*
- **Image processing (C++)**
    - Implemented modules for real-time moving object tracking and object classification in images.
    - Developed modules for remote sensing and processing of satellite images.

Education ────────────────────────────────

Middle East Technical University (METU)   *Ankara, Turkey*
PhD, Computer Engineering   *September 2011 - June 2016*
- Dissertation Title: A Multi-Objective Recommendation System
- Visiting Student, Computer Science, University of Calgary, Calgary-Alberta, Canada (October 2014 - September 2015)

Middle East Technical University (METU)   *Ankara, Turkey*
Msc, Computer Engineering   *September 2008 - February 2011*
- Dissertation Title: Text Summarization Using Latent Semantic Analysis

Middle East Technical University (METU)   *Ankara, Turkey*
BSc, Computer Engineering   *September 2003 - June 2008*
- Senior Year Project: RadioRead - Text mining on Turkish medical radiology reports

Selected Publications ────────────────────

All	See `https://mgulcin.github.io/research/` or `https://scholar.google.com/citations?user=Cmbcf_UAAAAJ` for the full list.
2020	Makbule Gulcin Ozsoy, Diarmuid O'Reilly Morgan, Panagiotis Symeonidis, Elias Z Tragos, Neil Hurley, Barry Smyth, Aonghus Lawlor. MP4Rec: Explainable And Accurate Top-N Recommendations In Heterogeneous Information Networks. Accepted. IEEE Access (2020)
2019	Bichen Shi, Makbule Gulcin Ozsoy, Neil Hurley, Barry Smyth, Elias Z. Tragos, James Geraci, Aonghus Lawlor. PyRecGym: A Reinforcement Learning Gym for Recommender Systems. RecSys 2019: 491–495 (2019)
2018	Makbule Gulcin Ozsoy, Tansel Ozyer, Faruk Polat, Reda Alhaj. Realizing Drug Repositioning by Adapting a Recommendation System to Handle the Process. BMC Bioinformatics 19(1): 136 (2018)
2016	Makbule Gulcin Ozsoy. From Word Embeddings to Item Recommendation. arXiv preprint arXiv: 1601.01356 (2016)
2014	Makbule Gulcin Ozsoy, Kezban Dilek Onal, Ismail Sengor Altingovde. Result Diversification for Tweet Search. WISE 2014: 78-89 (2014)
2011	Makbule Gulcin Ozsoy, Ferda Nur Alpaslan, Ilyas Cicekli. Text Summarization using Latent Semantic Analysis. Journal of Information Science 37(4): 405-417 (2011)

Skills ───────────────────────────────────

Programming Languages	Python, SQL (Presto, MySQL), Java, C++
Data Analysis and Machine Learning Tools	Pandas, Numpy, Scikit-learn, Jupyter Notebook, gensim, ChainerRL, Tensorflow, Wandb, spaCy, Rasa NLU, R, Apache Lucene, Weka, Mallet, LingPipe
Other Scientific Tools	OMNET++, Matlab, Apache Spark, OSGI
Software Engineering Tools	VSCode, IntelliJ IDEA, Eclipse, Git, SVN, Atlassian Platforms (JIRA, Confluence), IBM Rational Platforms (ClearCase, ClearQuest, RequsitePro, Rational Software

Achievements ─────────────────────────────

2014 - 2015	Recipient of the TUBITAK - International Doctoral Research Fellowship Program
2013	Won the TUBITAK - BIDEB 2224 - August grant to attend ASONAM'2013
2012	Finalist in Google Anita Borg Scholarship (EMEA)
2010	Won the AFNLP - CIPS Scholarship grant to attend COLING'2010
2010	Won the TUBITAK - BIDEB 2224 - July grant to attend COLING'2010
2008	Graduated in Deans Honor List from the Middle East Technical University
2003	Ranked in the first 0.05% among 1.5 million students in University Entrance Exam (OSS)

Languages ────────────────────────────────

English	Professional proficiency
Turkish	Native