Makbule Gulcin Ozsoy

CONTACT	London, United Kingdom	makbulegulcin@gmail.com https://mgulcin.github.io/

INTERESTS Recommender systems, Machine learning, Information retrieval

WORK
EXPERIENCE

Meta (formerly Facebook), London, United Kingdom

- 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 algorithms. Designed modules for data preparation, feature extraction, model training and offline evaluation. Proposed and implemented solutions to improve performance, resulting in a 5.5% increase in a year.
  - Offered guidance to new hires as a mentor, successfully assisting six mentees by the end of 2022.

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): 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 **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 **February 2011**
  - Dissertation Title: Text Summarization Using Latent Semantic Analysis

Middle East Technical University (METU), Ankara, Turkey

- BSc, Computer Engineering **June 2008**
  - Senior Year Project: RadioRead - Text mining on Turkish medical radiology reports

SKILLS

- **Programming Languages**: Python, SQL (Presto, MySQL), Java, C++
  - I am proficient in using Python for development since 2016, but also have experience using Java and C++, selecting the most appropriate language for each project.

- **Data Anlaysis and Machine Learning Tools**: Pandas, Numpy, Scikit-learn, Jupyter Notebook, gensim, ChainerRL, Tensorflow, Wandb, spaCy, Rasa NLU, R, Apache Lucene, Weka, Mallet, LingPipe
  - I frequently use Pandas, Numpy, Scikit-learn and Jupyter Notebook, as well as company-specific internal tools. I also have experience at ChainerRL, Tensorflow and Wandb. Depending on the project, I use tools designed for that domain, e.g., Rasa NLU for named entity recognition and intent classification.

- **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 Architect)

- **Operating Systems**: Unix/Linux, Windows

SELECTED
PUBLICATIONS

See https://mgulcin.github.io/research/ or
https://scholar.google.com/citations?user=Cmbcf_UAAAAJ for the full list.

- 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)

- 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)

- 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)

- Makbule Gulcin Ozsoy. From Word Embeddings to Item Recommendation. arXiv preprint arXiv: 1601.01356 (2016)

- Makbule Gulcin Ozsoy, Faruk Polat, Reda Alhajj. Multi-Objective Optimization Based Location and Social Network Aware Recommendation. COLLABORATECOM 2014: 233-242 (2014)

- Makbule Gulcin Ozsoy, Kezban Dilek Onal, Ismail Sengor Altingovde. Result Diversification for Tweet Search. WISE 2014: 78-89 (2014)

- Makbule Gulcin Ozsoy, Ferda Nur Alpaslan, Ilyas Cicekli. Text Summarization using Latent Semantic Analysis. Journal of Information Science 37(4): 405-417 (2011)

HONORS AND AWARDS	**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

Turkish: Native

English: Fluent