Selcuk Gulcan

Amazon, London
seljuk.gulcan@gmail.com

Web: seljuk.me
Github: seljukgulcan
LinkedIn: seljukgulcan

Education

PhD in Computer Science — **Bilkent University, Ankara** — **2020 — Current**

- GPA: 3.96/4.0
- Featured elective courses: Deep Learning, Statistical Learning and Data Analytics, Dynamic and Social Network Analysis

MSc in Computer Science — **Bilkent University, Ankara** — **2017 — 2020**

- GPA: 3.91/4.0
- Featured elective courses: Data Mining, Pattern Recognition, Natural Language Processing
- **Thesis**: Parallel Stochastic Gradient Descent on Multicore Architectures — Proposed an efficient parallelization of the Stochastic Gradient Descent algorithm for matrix completion problems on multicore architectures, improving the algorithm's performance by 25% on average compared to the state-of-the-art method. The improvement ranges from 14% to 60% depending on the size and scarcity of the data

BSc in Computer Science — **Bilkent University, Ankara** — **2011 — 2016**

- GPA: 3.5/4.0
- Featured elective courses: Algorithms for Web Scale Data, Introduction to Machine Learning

Employment

Software Development Engineer — **Amazon, London** — **2022 — Current**

- Working at Amazon Prime Video

Software Engineer — **Aselsan, Ankara** — **2016 — 2018**

- Implemented a genetic algorithm that optimizes the trajectory detection rate of artillery and rocket fire radars by suggesting optimal points for placements of the radars on a given terrain
- Maintained geographic information modules of various command-and-control software projects

Featured Projects

- **Rotornot.com** — Personalized rank-based movie recommendation system. Users train the system by answering "Given two movies, Which movie is better?" questions. Then the system makes personalized recommendations by analyzing users' movie preferences. I worked in every stage of the project, from database modeling and recommendation engine to frontend testing
  Related skills: C++, Python, Django, Javascript, Recommender Systems, Statistics

- **Civil Flight Trajectory Clustering** — Applied and compared different trajectory clustering methods on a dataset that covers two weeks of civil flight trajectories in Turkey, where trajectories are represented as lists of geographic coordinates with varying lengths. The project is hosted on github.com/seljukgulcan/comparing-trajectory-clustering-methods
  Related skills: Python, Machine Learning

- **Movie-Genre Analysis with Topic-Specific Pagerank** — Applied Topic-Specific Pagerank and Trustrank methods on a movie rating dataset to generate continuous genre scores for each movie. This allows us to compare the effect of different genres on a movie. The implementation, paper, and slides are hosted on github.com/seljukgulcan/movie-genre-analysis-with-pagerank
  Related skills: Python, C++, Graph Algorithms

Additional Experience and Competitions

- **Teaching assistant** of senior level Algorithms I course for 4 semesters at Bilkent University
- **Teaching assistant** of senior level Algorithms for Web Scale Data course for 1 semester at Bilkent University
- **Ranked 4th**, in Turkey, Hash Code 2019 programming competition organized by Google
- **Ranked 91st** out of 7942 people who have at least 1 submission at Code Jam 2021 Round 1 organized by Google

Skills

Main Languages	Python (Proficient), C/C++ (Used for high performance computing)
Other Languages	Java, C#, Javascript, SQL (Prior experience)
Technologies	OpenMP, Linux, Git
Areas	Algorithm design and analysis, Graph algorithms, Data analysis, Recommender systems, Low-rank matrix factorization, Parallel computing, Code performance optimization