

Sefika Efeoglu

Personal Information

Place of Residence: Berlin, Germany
Address: B0.31, Taubenbogen 4, 14476 Potsdam
Mobile: +49 0179 815 1650
Birth Date and Place: 01.08.1990 - Antalya (Kas), Turkey
Email: sefikaefeoglu@gmail.com
Linkedin: [sefikaefeoglu](#)
Github: [sefeoglu](#)

Research Interests

Semantic Web, Ontology, Information Retrieval, Machine Learning, Deep Learning, Robotics.

Academic Qualifications

11/2021- Now

Doctor of Science in Computer Science

Free University of Berlin, Germany

- Knowledge Graphs, Information Extraction, Relation Extraction, Semantic Web.

Fine-Grained Named Entities for Corona News

Free University of Berlin, Germany

- Named Entity Recognition, Annotation Pipeline (a new development).
- Tools: Pytorch, spaCy, Flair.

10/2018-9/2021

Master of Science in Data Science, 2.3 'Good' (German Grading System)

University of Potsdam, Germany

- Deep Learning, Natural Language Processing (NLP), Semantic Web,
- Autonomous Systems, Declarative Programming-Answer Set Programming (ASP),
- Languages and Tools: Python, fast.ai, Tensorflow, Pytorch, Pandas, scikit-learn, seaborn.

Master Thesis

A Deep Learning Approach for Domain-Specific Automated Ontology Construction

- Subtitle: Ontology Matching
- Tools and External Semantic Technologies: YAGO, DBpedia, Wikidata.
- Methods: NLP, NER, Semantic Technologies, Representation Learning and Graph Neural Networks.
- The system has been submitted into [The 17th International Workshop on Ontology Matching's OAEL track](#) and obtained the highest F-measure at the uncertain reference alignments (see the Discussion section on the OM 2022 Conference track' results).

Autonomous Smart Warehouse at Technische Universität Berlin

- The project covers 8 robots. The duties of a robot is to carry a package to a storage area from an input space and going to a charging station if the battery is low. Demo video is accessible [here](#).
- Tools and Language: ROS, Morse, Python, agent technology, C++, Reinforcement Learning, Decentralized Architecture and Multi-Agent System.

More projects are available on the github account.

10/2010-7/2015

Bachelor of Computer Engineering, 3.26/4.0

Ege University, İzmir, Turkey

Main Courses:

- Algorithms, Cloud Computing, Server Side Programming
- Object Oriented Programming, Database Management System
- Ontology Engineering, Knowledge Representation

Tools and Programming Languages:

- Java EE, AWS (SNS, SQS, EC2, S3, DynamoDB), T-SQL, Spring Boot, JPA, Hibernate,
- Prolog, Protege, SWRL.

Thesis title: Testing Ontology-Based Semantic Relatedness Measurement in Graph Database in Flickr Dataset.

Subtitle: Keyword based Image Retrieval System.

6/2009

Demre Anatolian High School, Antalya, Turkey

Math and Science, 85.99/100

Professional Experiences

9/2016-03/2017

Software Engineer

Metglobal, Istanbul Turkey

- Role: development and maintenance of call center CRM project and development of analytics pages using google charts tool for call center teams.
- Used technologies and programming languages: PHP, JetBrains, MySQL, JavaScript

02/2016-08/2016

Software Engineer

Garanti BBVA Technology, Istanbul Turkey

- Role: development and maintenance of Garanti BBVA Emeklilik and CRM applications of its call center projects and development of the new corporate website of Garanti pension.
- Used technologies and programming languages: MS Dynamics CRM Development, Jenkins, T-SQL, MS SQL Server, Eclipse, Visual Studio, Java Spring Boot, C#, Java EE.

7/2014-8/2014

Student Intern

Multimedia Databases Laboratory

Middle East Technical University, Ankara Turkey

Duties:

- Modeling of video data on graph databases using Neo4j and evaluating queries on object (db4o) and graph databases (Neo4j).
 - Low level query: content based search on video database
 - High level query: simply retrieval of objects from a video database.
 - Used technologies: Neo4j, db4o, Java, eclipse
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Awards and Grants

9/2020

Mediterranean Machine Learning School

virtual machine learning school
accepted student for free registration.

8/2019

15th Web Reasoning Summer School Grant

awarded me a full grant including all expenses for this summer school taking place in Free University of Bolzano, Italy

10/2017

Graduate Education Scholarship for Study Abroad

Republic of Turkey Ministry of National Education
covering all expenses of master and PhD education

- evaluation based on ALES (an exam like GRE), CGPA of Bachelor Degree and a technical exam

7/2015

Honor Student (according to cumulative gpa)

Ege University, İzmir Turkey

9/2005-6/2009

High School Scholarship

Republic of Turkey Ministry of National Education
awarded a scholarship according to the high school entrance exam throughout high school.

Selected Certificates

9/2020

Mediterranean Machine Learning School

Machine Learning

Courses:

- Natural Language Processing, Geometric Models.

9/2019

15th Reasoning Web Summer School 2019

Free University of Bolzano, Bolzano Italy

Explainable AI

Selected Courses (attended all courses)

- Knowledge Representation and Rule Mining in Entity-centric Knowledge Bases, Modest Markov Automata, Formal Concept Analysis, Logic-Based Learning of Answer Set Programs, Constraint Learning

7/2019

Advanced Course in AI 2019 Summer School

Technical University of Crete, Crete Greece

Multiagent System

Selected Courses(attended all courses)

- Multi-Agent Learning, Multiagent Planning under Uncertainty, Model-based Machine Learning for Crowdsourcing, Logic Learning for Multi-Agent Systems, From Human-Robot Interaction to User Experience and beyond

Publications

- A Continual Relation Extraction Approach for Knowledge Graph Completeness, *Doctoral Consortium Session, The 26th International Conference on Theory and Practice of Digital Libraries (TPDL), September 2022, Padova, Italy (to appear)*
- GraphMatcher: A Graph Representation Learning Approach for Ontology Matching, *The 17th International Workshop on Ontology Matching, The 21th International Semantic Web Conference ISWC-2022, October 2022, fully virtual conference, Hangzhou, China (to appear)*.
(The results of the system is available [here](#))

Languages

English
German

C1
A2

IELTS
The Placement Test of
the FU Berlin

Turkish

Native

October 13, 2022

