

Suleyman Onur Dogan

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EDUCATION

- Sabancı University - Master of Science in Computer Science & Engineering** 2024-2026
 - Full Scholarship
- Antalya Bilim University - Bachelor of Science in Computer Engineering** 2019-2024
 - GPA: 3.71/4 | %100 English

EXPERIENCE

- Software Engineer Intern** Nov 2023 – June 2024
 - Turkish Aerospace Industries, Turkey
 - Contributed to the backend development of a web application that is used as a platform for analyses and advancements in the aviation industry.
- Junior Data Scientist** Sept 2023 – March 2024
 - John Snow Labs, USA (Remote)
 - Taken parts in Spark-NLP for Healthcare projects that includes building Retrieval-Augmented Generation (RAG) - LLM pipelines, creating NLP pipelines and training NLP models, performing evaluations of large language models, integrating and testing models on AWS and Databricks cloud services.
 - Contributed the development of **open source NLU library** which allows applying latest NLP models from Spark-NLP and HuggingFace, directly on any dataframe, with a single line of code.
- Junior Machine Learning Engineer** March – June 2023
 - GrainFox, Canada (Remote)
 - Improved and deployed a contract document information extraction service API which automatically extract the features from contract document using Computer Vision techniques.
 - Integrated the service API into production pipeline and contributed the implementation of MLOps using FastAPI, Django, Docker, RabbitMQ, Celery, Traefik.
 - Conducted research and development of NER models and created pipeline via Large Language Model agent as an innovative approach of information extraction using LangChain and OpenAI API.
- Undergraduate Research Assistant** March 2022 – Nov 2023
 - Computational Biology Group/ML Lab (Dr. Hilal Kazan), Antalya Bilim University
 - Worked on Tubitak (Scientific and Technological Research Council of Türkiye) Funded Project – “Neuroimmune guidance cues, MicroRNAs & Inflammatory responses: Sex differences in Cardiovascular Diseases” under supervision of Dr. Hilal Kazan.
 - Focused on the differential gene co-expression network with pairwise and cluster-wise analysis, via ML based clustering algorithms and statistical analysis of bulk rna-seq datasets. Data science techniques applied for analysis of gene expression datasets.
 - Participated the development of SciTuna, Serna-seq dataset Integration Tool which uses Network Alignment algorithm.
- Research Intern** July – Sept 2022
 - Tastan Lab (Dr. Oznur Tastan), Sabancı University
 - Developed an open-source project called tlmsa for detection of possible sumoylation sites that emerges through mutations via data manipulation techniques and pre-developed deep sequential neural network model and worked on optimization, via encoders, of the neural network model.
- Undergraduate Research Assistant** Sept 2020 – July 2022
 - Statistical Signal Processing Lab, Antalya Bilim University
 - Worked on Tubitak Funded Project - “Investigation of the interactions between the neuronal noise and the neuronal network using information-theoretical approaches” under supervision of Dr. Deniz Gencaga and Dr. Sevgi Sengul Ayan.
 - Conditional information transfer between neurons and neuronal network inference on time series action-potential data investigated with Conditional Transfer Entropy from Information Theory via implementation of IDTxl library.

TECHNICAL SKILLS

- Programming Languages:** Python, Java, C#, C++, C, R, Matlab, HTML, CSS, JS, SQL
- ML Frameworks:** Tensorflow, Keras, PyTorch, Scikit-Learn, LangChain, OpenCV, Spark-NLP
- Frameworks:** Django, FastAPI, Java Spring, .NET, Streamlit, RabbitMQ, Celery, Traefik, GitHub, Docker
- Cloud:** Databricks, AWS EMR, AWS Glue, AWS S3

External PROJECTS

- **Healthcare Tourism App – Thesis Project**

- Healthcare tourism app is developed as thesis project where Patient can be able to plan the trip and make reservation on hospital and hotel in one app.
- I developed a healthcare tourism chatbot that works based on our SQL database, utilizing RAG with LLM using LangChain, FAISS, Gemini API, FastAPI.

- **The use of Deep Learning in Biomedical Imaging**

- The application of CNN models and transfer learning-based models to biomedical images is investigated using examples from brain tumor classification and Covid-19 diagnosis as part of Biomedical Imaging course of **Prof. Umit Demirbas**.

- **SLAM Simulation of Indoor Robot**

- Simulations performed with a BreezySLAM algorithm by using existing Odometry and Lidar Data for SLAM indoor robot. Throughout the project, SLAM algorithms were the main emphasis.

- **Matrix Factorization method for Movie Recommendation System with Parallel Computing**

- Focused on application of Matrix Factorization technique with ALS on Collaborative Filtering-based recommendation system using PySparkML.

Publications & Conference Presentations

- Mehmet Uğur KAHRAMAN, **Süleyman Onur DOĞAN**, Sevgi ŞENGÜL AYAN, Yaren ŞEKERCİ, Ferhat KOYUNCU, Hakan Bal. Harmony in Diversity: Exploring Eclectic Chair Designs Through Deep Neural Networks Analysis in Interior Design Education. **Submitted to Design Science - Cambridge**
- **Süleyman Onur Dogan**, Burak Onur Erten, Cesim Erten, Aissa Houdjedj, Hilal Kazan, Yacine Marouf, Mekan Myradov and Ozgur Tastan. SciTuna: Single Cell RNA-seq data integration tool using network alignment. **Submitted to IEEE/ACM Transactions on Computational Biology and Bioinformatics**
- Yacine Marouf, **Onur Dogan**, Ernest Diez Benavente, Gerard Pasterkamp, Hester M. den Ruijter, Janine van Gils, Katey Rayner, Hilal Kazan. Sex-biased Expression of Neuroimmune Guidance Cues in Cardiovascular Diseases. **Ongoing Publication Process, Presented at** (ERA-CVD'22, Latvia, Sept 19-20, 2022) & (HIBIT'22, Turkey, Oct 20-21, 2022)
- **O.Dogan**, S.Ş. Ayan, D.Gencaga. Analysis of Neuronal Interaction Using Information-Theoretical Models. **Presented at** The 8'th International Congress on Fundamental and Applied Science (ICFAS'21, Oct 19-21, 2021)

Volunteer EXPERIENCE

- **Google Developers Group Antalya** Sept 2020 – Nov 2021
 - *Co-Organizer*
 - Aim is to gather people interested in technology, to organize activities and to follow the technological agenda.
 - Designed and leaded developers.june robotics event where we hosted five experts in different fields of robotics.

Certificates

- **Machine Learning**, Stanford University Online
- **Spark NLP for Data Scientist**, John Snow Labs