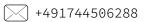
# **Mert** Kurttutan





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# **EXPERIENCE**

AON | Machine Learning Developer | Docker | Azure | Python | Pytorch

- August 2022 Present | Remote, Part-time, Germany
  → Developed Automatic Speech Recognition micro-service with FastAPI needed for Data Science Team, and Dashboard used internally by Company
  - → Worked on a project to create deep learning model for anomaly detection.
  - → Collected Resume Data and (working on) NLP solutions (e.g. Named Entity Recognition) to process resume for better candidate evaluation

#### **SINCH** | Machine Learning Engineer

January 2023 - Present | Remote, Internship | NLP | Large Language Models

- → Prepared the fine-tuning data for LLM on internal pipeline
- → Optimize pipeline using LLM to extract knowledge from doc, prompt engineering

UNIVERSITY OF AMSTERDAM | RESEARCH INTERNSHIP | NUMERICAL SIMULATION May 2019 - August 2019 | Amsterdam, Netherlands

- → Research on topological insulators and reported to Prof. van Wezel
- → Co-authored publication on Phy Rev B. To see the paper, click here

LMU MUNICH | RESEARCH INTERNSHIP - HIGH PERFORMANCE COMPUTING July 2021 - September 2021 | Online

- → Conducted numerical simulations on crystalline systems using tensor network methods, e.g. DMRG, to study magnetic properties and used HPC Clusters
- → Co-authored publication on Phy Rev B. To see the paper, click here

SABANCI UNIVERSITY | TEACHING ASSISTANT FOR LINEAR ALGEBRA AND ABSTRACT ALGEBRA January 2016 - May 2020 | Istanbul Turkey

→ Conducted Recitation classes, Prepared Quizzes and Graded assignments

# **PROJECTS**

NBA MATCH RESULT PREDICTION |AWS, APACHE AIRFLOW, XGBOOST, TF, | github link

- → Extracted data from nbastats endpoint using api, webscraping proxies; used Airflow, AWS EventBridge and ECS to automate data processing
- ightarrow Implemented DNN and boosted tree to predict match results, val accuracy  $\sim 74\%$
- → Deployed containerized web app for prediction using Flask and AWS ECS

**OBJECT DETECTION** | PYTORCH, TENSORFLOW, TFX | github link

- → Implemented Pytorch and Tensorflow version of YOLOv2 architecture (darknet19) and implemented hyperparameter tuning process with Optuna and KerasTuner
- → Created deployment with TFX, and Kubernetes on Google Cloud using Kubeflow

SALES PREDICTION | PYTHON | github link

- → Implemented tree-based ensemble methods via Xgboost, and stacking method
- → Implemented app for sales prediction using FastAPI and Docker

#### **AUCTION WEB APPLICATION** | PHP, MySQL, C++ | github link

- → Implemented ETL process and database with features e.g. trigger, buffer manager
- → Implemented web application that conducts process of bidding using PHP and CSS

**TORCHVIEW** | PYTHON | GITHUB ACTIONS | PYTORCH | github link

→ Created fully functional and customizable python packaging for visualizing pytorch models, 10k downloads

#### SKILLS

#### **PROGRAMMING**

Proficient:

MATLAB • • Rust • MySQL • PostgreSQL • Bash

Experienced:

Python • Julia • LATEX • • Go

# TOOLS/PLATFORMS/OS

Git • Docker • Kubernetes • CMake • Linux • Google Cloud Platform / AWS • TensorFlow, • Pytorch • Kubeflow/Airflow/FastAPI/django

## **PUBLICATIONS**

- Topological invariants of rotationally symmetric crystals
- Ferromagnetism and Skyrmions in the HFH Model

# **EDUCATION**

#### FREIE UNIVERSITÄT BERLIN

MASTER'S IN PHYSICS (QUANTUM Information Theory) Sep 2021 - Present | Berlin

#### SABANCI UNIVERSITY

BACHELORS IN MATERIALS SCIENCE Sep 2017 - June 2021 | Istanbul School of Engineering Minor in Physics and Math, GPA=3.96/4.00

#### CERTIFICATES

Coursera Deep Learning Specialization, TensorFlow: Advanced Techniques Specialization, ML Engineering for Production Specialization, For verification and complete list, please see here

#### REFERENCES

Jasper van Wezel, Associate professor, University of Amsterdam.

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Durmus Ali Demir, Professor of Physics, Sabanci University

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