

Padova, Italy

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Creating intelligent systems, solving real-world challenges and bringing innovation to life – With strong foundation in software engineering and AI

# Work Experience \_\_\_\_\_

MINTS Padova, Italy

EARLY STAGE RESEARCHER

Mar. 2020 - Mar. 2023

- Developed a distributed and multi-threaded edge computing server-client network using socket programming and TCP/IP on Python [paper]
- Developed a radar network with synchronization, data sharing and FoV calibration features
- Designed a Machine Learning model for human activity recognition and person tracking/identification on radars by using Tensorflow
- Implemented CNN, RNN (LSTM / GRU) and Autoencoder models for radar-based YOLOv3 for person tracking by using PyTorch [code]

Nokia Bell Labs Espoo, Finland

Ph.D. Researcher · Machine Learning Engineer

May 2022 - Aug. 2022

- Developed decision tree based peak detection model for a wifi signals using scikit-learn
- · Developed a preprocessing pipeline for received signals to be used by peak detector using pandas and numpy

IMDEA Networks

Madrid, Spain

Ph.D. Researcher · Machine Learning Engineer

Jan. 2021 - Jun. 2021

- · Developed a Neural Network model for person identification and human activity recognition using TensorFlow [paper]
- · Developed an algorithm for signal thresholding, noise removal and interpolation using Python and scikit-learn

## **Education**

#### **University of Padova (UNIPD)**

Padova, Italy

Ph.D. IN INFORMATION AND COMMUNICATION TECHNOLOGY

Oct. 2019 - Oct. 2023

- Thesis: ML-driven Environment Sensing with millimeter-Wave radars
- Granted 3-year full scholarship as a part of MINTS research group in Marie Skłodowska-Curie Actions ITN H2020 (Grant no: 861222)
- Managed blog duties of 15 PhD students (scheduling, reviewing and publishing) and supervised a MSc. student through their thesis period

#### Eastern Mediterranean University (EMU)

Famagusta, Cyprus

M.Sc. in Applied Mathematics and Computer Science

Sep. 2017 - Jul. 2019

- Thesis: Person-Dependant and Independant Facial Emotion Recognition on eNTERFACE, SAVEE and RML datasets using SVM and NN [paper]
- Awarded a Research Assistant Software Engineering position, developed internal features for university infrastructure with .NET, MySQL, NodeJS
- Main Courses: Distributed and Parallel Programming, Cryptography and Network Security, Artificial Intelligence, Decision Making

Bilkent University

Ankara, Turkey

B.Sc. IN COMPUTER ENGINEERING

Sep. 2012 - Jul. 2017

- Graduation Project: NetWord: A social network based on text-based games developed with Android Studio and Google Firebase [code]
- Main Courses: Digital Design, Computer Organization, Operating Systems, Artificial Intelligence, Image Analysis, Computer Graphics

## **Publications**

- 2023 **RAPID: Retrofitting APs for Indoor human Detection and sensing**, IEEE Transactions on Mobile Computing
- 2022 **RadNet: a testbed for mmwave RADar NETworks**, ACM CoNEXT
- 2022 A review of mmWave localization and device-free sensing technologies and applications, IEEE CS&T
- 2021 Video-based person-dependent and person-independent facial emotion recognition, Springer SIVP
- 2020 Deep Learning for Accurate Indoor Human Tracking with a mm-Wave Radar, IEEE Radar Conference

## Skills

**Tools** Python · SQL · LaTeX · VSCode · Jupyter · AWS · Docker · Git · Bitbucket · Linux · R · C++ · Java

**Packages** Numpy · Pandas · Scikit-Learn · Matplotlib · PyTorch · TensorFlow · socket

**Techniques** Neural Networks · YOLO · DBSCAN · SVM · Kalman Filter · decision tree · k-means · PCA · micro-Doppler

**Applications** Classification · Regression · Clustering · NLP · Object Detection · Activity Recognition · Data Science · Data Engineering (EDA)

**Side Projects** Image Segmentation [code] LeetCode [link] Kaggle [link]

Languages English (proficient [IELTS 7.5]) · Turkish (native) · Azerbaijani (native) · Russian (intermediate) · Italian (beginner)