

MEHMET YİĞİT AVCI

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EDUCATION

TECHNICAL UNIVERSITY OF MUNICH

Oct. 2022 – Jul. 2024

Master of Science

Biomedical Computing / Faculty of Informatics

BOGAZICI UNIVERSITY

Sep. 2017 – Jun. 2022

Bachelor of Applied Science and Engineering

Electrical and Electronics Engineering

RESEARCH & TEACHING EXPERIENCE

TUM COMPAI Lab, Supervisor: Prof. Julia Schnabel

Mar. 2023 - Present

Research Intern

- Working on unsupervised representation learning for detection and localization for Alzheimer's Disease
- Preparing a submission for ISBI 2024

Bogazici University EE 304, Supervisor: Prof. Alpay Özcan

Mar. 2022 - Jun. 2022

Undergraduate Teaching Assistant

VAVlab, Supervisor: Prof. Burak Acar

Sep. 2021 - Jun. 2022

Senior Year Project

- Worked on a novel method for deep non-negative matrix factorization of face images for recognition and brain connectomes for classification of Alzheimer's Disease according to severity

Harvard-MIT Health Sciences & Technology

MGH Martinos Center for Biomedical Imaging

Supervisor: Dr. Qiyuan Tian, Prof. Berkin Bilgic

Apr. 2021 - Present

Research Assistant

- Worked on a novel dropout + averaging strategy that allows for quantifying uncertainty and training networks with very limited amounts of data for quantitative imaging – Preparing a submission for MRM Journal
- Working on self-supervised MRI reconstruction

JOURNAL PAPERS

-Christiane Posselt, **Mehmet Yigit Avcı**, Mehmet Yigitsoy, Patrick Schünke, Christoph Kolbitsch, Tobias Schäffter, Stefanie Remmele, "Simulation of acquisition shifts in T2w FLAIR MR images to stress test AI segmentation networks", (preprint) submitted to **SPIE Journal of Medical Imaging, 2023**

-Aja-Fernandez, ... **Avcı, Mehmet Yigit**, ..., Pieciak, Tomasz, "Validation of Deep Learning Techniques for Quality Augmentation in Diffusion MRI for Clinical Studies" , **NeuroImage: Clinical, 2023**

CONFERENCE ABSTRACTS & POSTERS

Christiane Posselt, **Mehmet Yigit Avcı**, Mehmet Yigitsoy, Patrick Schünke, Christoph Kolbitsch, Tobias Schäffter, Stefanie Remmele, "NeuroTEST - How do image acquisition shifts affect SOTA MS lesion segmentation models?", **MedizinTechnik Postersymposium 2023** (Poster)

-Aja-Fernandez, ... **Avcı, Mehmet Yigit**, ..., Pieciak, Tomasz, "Validation of Deep Learning Techniques for Quality Augmentation in Diffusion MRI for Clinical Studies" , **ISMRM, 2023**

-**Mehmet Yigit Avcı**, Ziyu Li, Qiuyun Fan, Susie Huang, Berkin Bilgic, Qiyuan Tian, "Quantifying the uncertainty of neural networks using Monte Carlo dropout for deep learning based quantitative MRI", **ISMRM, 2022** (oral Power Pitch presentation)

RELEVANT SKILLS

Languages: Python, C/C++, MATLAB, SQL
Libraries: NumPy/SciPy, Pytorch, Tensorflow, MONAI, OpenCV, ROS
Other : Linux OS, Docker, Kubernetes, LaTeX, PowerBI

WORK EXPERIENCE

deepe *Sep. 2022 - Present*

Machine Learning R&D Intern

- Working on body part classification problems for different imaging modalities
- Working on MS Lesion segmentation with SoA models
- Helping the team dockerizing and running the models in cloud with Kubernetes structure

ASELSAN *Aug. 2021 - Sep. 2021*

Computer Vision R&D Intern

- Worked on project regarding object detection and tracking with drone
- Mainly focused on object detection and deep learning algorithms using OpenCV and PyTorch
- Used TensorRT on Jetson Xavier NX for high-performance runtime and ROS for communication with drone

Borusan EnBW Energy *Jan. 2021 - July 2021*

Data Analysis and Algorithm Intern

- Helped team about wind-hydro power data storage and interpretation using Python/NumPy and SQL
- Helped team about automatization of performance reports using PowerBI

Turkcell *June 2020 - Dec. 2020*

Data Network Intern

- Helped team regarding switch and router configurations, IP address operations with Python scripts
- Awarded second place in project competition between interns with project titled 'Predictive Maintenance for Turkcell'

HONORS AND ACHIEVEMENTS

- [Ranked 4th in QUAD \(MICCAI\)'22 challenge](#)
- ISMRM Annual Conference Trainee Stipend (2022)
- High honors graduate of Bogazici
- Ranked 117th among 1.6 million candidates in the Nationwide University Entrance Exam (YGS)
- Ranked 3th among 0.2 million candidates in the national postgraduate education entrance exam (Turkish GRE)

RELATED COURSEWORK

TUM

Machine Learning - Introduction to Deep Learning - Medical Instrumentation and Computer Aided Surgery - Computer Aided Medical Procedures - Biomedical Physics

Bogazici University

AI in Healthcare - Introduction to Image Processing - Machine Vision - Data Mining for Visual Media

EXTRACURRICULAR

CMAS 2-STAR SCUBA DIVER

- Passed required theoretical and practical courses, currently holding CMAS 2 Star Diver License
- Actively participated in Bogazici University Sub-Aquatic Sports (BUSAS) and organized diving trips

ZEYBEK DANCER (Turkish Folk Dance)

- Awarded second place with Bogazici Zeybek Team on Intercollegiate Folk Dance Competition (2018)

MEMBER OF BUIK

- Organized several conferences regarding finance and economics with Bogazici University Management Club (BUIK)