Mehmet Kerem Avcı

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VISION & IMPACT

Building scalable, high-impact AI systems that integrate deep learning with modern engineering practices — from embedded applications to cloud-native, high-throughput platforms. Passionate about solving large-scale challenges in data processing, model development and deployment, and end-to-end Machine Learning systems. Experienced in developing packages and modules for both production use and R&D; currently focused on building high performance libraries and contributing to the open source Machine Learning community. Committed to advancing applied AI and enabling teams to deliver robust, meaningful solutions that scale in the real world.

EDUCATION

Bogazici University, Computer Engineering **M.Sc.**
2020 – 2023

Bogazici University, Electrical and Electronics Engineering **B.Sc.**
2015 – 2020

Ranked 22nd among 2M+ candidates in Turkey's National University Exam

SKILLS

Domain Expertise: Deep Learning, Computer Vision, Time-Series Forecasting, Reinforcement Learning, Back-end Development, Computer Networks, DevOps, ML-Ops
Programming Languages: Python, C++, Golang, MATLAB, JavaScript, CUDA (actively learning)
ML & AI: PyTorch, TensorFlow, JAX, scikit-learn, XGBoost, LightGBM
Backend: FastAPI, Django, Echo, MongoDB, Redis, PostgreSQL
DevOps: Linux, Bash, Docker, Google Cloud Platform, AWS, GitHub Actions

VOLUNTEERING

Instructor and Member at **inzva**
2021 Oct. - present

- Organized Kaggle challenges for study group participants
- Served as instructor in Deep Learning study groups

EXPERIENCE

Machine Learning Engineer at **Eatron Technologies**
2024 Nov. - present

- Developed a generic Python package for Deep Learning experimentation on Battery Management problems
- Developed Lithium Plating and anomaly detection models, as well as autoregressive SoC estimation models
- Automated model conversion and performance benchmarking for Syntiant AI accelerators

Co-founder at **Maynard Vision**
2023 Sep. - 2024 Sep.

- Decided to discontinue the project due to limitations in existing industry infrastructure
- Led a team of 5 engineers and collaborated with clients' IT teams
- Designed and implemented a real-time object-based algorithm for video watermarking

Head of Technology at **Vitamu**
2022 Mar. - 2024 Sep.

- Founded technology team and managed 10 engineers
- Built MLOps pipeline and deployed it on AWS and Google Cloud Platform
- Developed Computer Vision models to detect, segment, and evaluate different types of malignant tissues on Mammography images
- Built a web service and on-prem hospital software from scratch, including a fully integrated DICOM server

Research Assistant at **Bogazici University**
2020 Feb. - 2023 Sep.

- Led a research project and supervised 8 BSc students
- Designed a testbed for experiments recording drone flights with passive RF, audio and optical sensors
- Created a multimodal drone detection dataset and trained DL models on it
- Proposed a novel receiver topology in Molecular Communications

PROJECTS

TorchJiC [ongoing] (link)

- Project idea on an experimental framework for compiling Python functions or PyTorch operations directly into CUDA kernels — at runtime

pynetdicom+ (link)

- Extended version of pynetdicom library with additional features such as multi-process support and multi-SOP handling

CONNECT (link)

- Built a multi-sensor testbed and deep learning model for drone localization using passive RF, video, and audio data

High Speed Novel View Synthesis via Unsynchronized Videos (link)

- Explored high time-resolution novel view synthesis from unsynchronized multi-view videos using a NeRF-based approach

PUBLICATIONS

- **Multiple transmitter localization via single receiver in 3-D molecular communication via diffusion** (link), *2021*
  O. Yetimoglu, M. K. Avci, B. C. Akdeniz, H. B. Yilmaz, A. E. Pusane, T. Tugcu