

MEHMET KEREM TURKCAN

mkturkcan.github.io ♦ mkt2126@columbia.edu ♦ github.com/mkturkcan ♦ linkedin.com/in/mehmetkeremturkcan

SUMMARY

Applied AI research scientist with 8+ years of experience building computer vision, multimodal, and scientific data systems for demanding real-world environments. Lead work in open-vocabulary and 3D perception, edge/VLM systems, synthetic data, medical robotics, and research agent platforms. Published at CVPR, ICML, ACM UIST, ACM/IEEE SEC, IEEE INFOCOM, and eLife; created open-source systems with 1,200+ combined GitHub stars.

EXPERIENCE

- ♦ **Columbia University**, New York, NY

Jul 2024 – Present

Associate Research Scientist

- Lead applied AI projects across an NSF Engineering Research Center spanning 5 institutions and 30+ principal investigators, with sensing models intended to scale across 900+ NYC intersections and three urban testbeds.
 - Created DART, a TensorRT-optimized real-time open-vocabulary detector with public weights and 300+ GitHub stars; led UrbanOmniDetect, an oral paper at the CVPR 2026 DriveX Workshop.
 - Co-authored the ACM/IEEE SEC 2025 Best Paper plus work at IEEE INFOCOM 2026, ICML 2025, and IEEE PerCom 2025; contributed to Open-H-Embodiment and surgical world models for medical robotics.
 - Secured project support from NVIDIA and EmpireAI; lead HPC, data, deployment, and public release workflows; main engineering instructor for CS3 RET in 2024–2026.
- ♦ **Columbia University**, New York, NY

Nov 2022 – Jul 2024

Postdoctoral Research Scientist

- Built real-time urban digital twins integrating detection, tracking, trajectory prediction, simulation, and safety alerts; developed Unreal Engine 5 synthetic data and high-altitude detection benchmarks.
 - Built healthcare AI pipelines with Northwell Health for surgical phase recognition and automated endoscopy skill scoring; mentored 11 Master’s and three high school researchers.
- ♦ **Columbia University**, New York, NY

Jan 2023 – Dec 2023

Lecturer in Electrical Engineering

- Designed and taught graduate courses in neural networks and advanced deep learning with coding assignments, exams, and conference-style final projects.
- ♦ **Columbia University**, New York, NY

Jan 2017 – Oct 2022

Doctoral Researcher

- Co-created FlyBrainLab, combining TypeScript/JupyterLab, literature and ontology retrieval, OrientDB graph querying, biomedical QA, GPU simulation, and interactive 3D visualization.

EDUCATION

Columbia University – Ph.D., Electrical Engineering, GPA 4.10	2022
Columbia University – M.S., Computer Science, GPA 3.97	2016
Istanbul Technical University – B.S., Electronics and Communication Engineering, GPA 3.75	2015

SELECTED PUBLICATIONS

- ♦ **Calibration-Free View-Agnostic Monocular 3D Object Detection for Urban Scenes**

CVPRW 2026, Oral
- ♦ **Worst-Case Attacks in Reactive Edge-Cloud Systems**

IEEE INFOCOM 2026
- ♦ **Real-Time Video Analytics for Urban Safety**

ACM/IEEE SEC 2025, Best Paper
- ♦ **Adaptive Data Collection for Robust Learning Across Multiple Distributions**

ICML 2025
- ♦ **StreetNav: Street-Camera Navigation for Blind Pedestrians**

ACM UIST 2024
- ♦ **FlyBrainLab: Accelerating Discovery of the Functional Logic of the Drosophila Brain**

eLife 2021

TECHNICAL SKILLS AND SERVICE

- ♦ **AI and vision:** PyTorch, JAX, TensorFlow, Hugging Face, detection, tracking, 3D perception, VLM/VLA, RAG, agents, diffusion and world models
- ♦ **Deployment and systems:** Python, C/C++, CUDA, TypeScript, TensorRT, ONNX, WebGPU, Jetson, HPC, OrientDB, Docker, CI/CD, Unreal Engine 5
- ♦ **Reviewer:** CVPR 2026, ICML 2026, ICMLA 2026, WACV 2025, MobiCom 2024, IEEE/ACM Transactions on Networking, IEEE TVLSI, and Sensors (MDPI)