

Emirhan Inan

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Publications

AuGhostmentation: The Eyes Never Stand Still—Why Should CNNs?

Emirhan Inan, Suayb S. Arslan

NeurIPS 2026 — Main Track (Poster)

- Introduced a biologically inspired augmentation method using human fixational eye movement (saccade/microsaccade) data to improve neural network robustness, shape bias and overall classification accuracy.
- Evaluated across canonical backbones including ResNet, VOneNet, VGG, ConvNeXt, Swin-Tiny and ViT on ImageNet classification, corruption benchmarks and stylized distribution shifts.

Research Interests

Computer Vision · Deep Learning · Robust Networks · Computational Neuroscience
Biologically Inspired Machine Learning · Biomimetic Training

Education

Boğaziçi University, Istanbul, Türkiye

09/2026 – Expected 06/2028

M.Sc. in Data Science and Artificial Intelligence

Istanbul Bilgi University, Istanbul, Türkiye

09/2023 – Expected 06/2027

B.Sc. in Computer Engineering, Double Major

ÖSYM 100% Scholarship

Istanbul Bilgi University, Istanbul, Türkiye

09/2022 – 07/2026

B.Sc. in Electrical and Electronics Engineering

ÖSYM 100% Scholarship

Research Experience

Boğaziçi University

10/2025 – Present

Research Intern, Neural Networks

Prof. Dr. Suayb S. Arslan

- Investigating biologically inspired mechanisms for deep neural networks, emphasizing visual robustness, hierarchical representations and neural computation.
- Designing neural-network interventions across modern vision architectures using classification, corruption and adversarial robustness benchmarks.
- Analyzing relationships between learned artificial representations and computational principles observed across biological visual systems, especially the emergent constraints.

TÜBİTAK BİLGEM

08/2026 – 09/2026

Research Intern, Artificial Intelligence and Computer Vision

- Developed and evaluated machine-learning methods for computer-vision applications.

Istanbul Technical University

06/2025 – 05/2026

Research Intern, Computational Modeling and Simulation Laboratory

Prof. Dr. M. Serdar Celebi

- Developed computational cardiac-electrophysiology workflows using SimVascular, Chaste, openCARP, and high-resolution anatomical meshes.
- Built and simulated three-dimensional cardiac models preserving electrophysiological and anatomical properties.
- Received funded participation in the openCARP Digital Heart Conference in Bordeaux, France.

Selected Technical Experience

Turkish Technic

07/2026 – 10/2026

Part-time MRO Engineer

- Overseeing technical end-to-end deployments and software applications in an internationally known aircraft maintenance firm headquartered in Türkiye.

Voltran AI

01/2026 – 07/2026

Junior Software Engineer

- Developed software for AI-agent orchestration and LLM-backed applications using cloud-based backend infrastructure for an edTech platform, mostly using Python, Supabase, GCP.

Technical Skills

Programming: Python > C++

Machine Learning: PyTorch, TensorFlow, scikit-learn

Scientific Computing: NumPy, pandas, SimVascular, Chaste, openCARP

Tools: Linux, Git, Bash