

Emir Kisa

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EDUCATION

Boğaziçi University

B.S., Electrical and Electronics Engineering

Istanbul, TR

Oct 2021 — Jan 2025

Boğaziçi University

B.S., Mechanical Engineering (transferred to EE)

Istanbul, TR

Oct 2019 — May 2021

Yeni Izler High School

Ranked 36th in the First Stage TUBITAK 26th National Mathematics Olympiad

Sanliurfa, TR

Top 0.03% in Turkey's national university entrance exam (YKS 2019, 764th of ~2.5M)

Research Interests: Controllable video generation, safety of generative video models, diffusion and flow-matching models

PUBLICATIONS

- **E. Kisa**, V. Escorcia, J. Kim, A. Schwing, O. Kara†, J. M. Rehg†, “SEGUE: Visual Signal as Exclusive Guidance for One-Shot Transition Effect Generation” (*Under Review at ICLR 2027*) [Project page](#) · [Code](#)

† Joint last authors

RESEARCH EXPERIENCE

Visiting Researcher

Jan 2026 — Present

University of Illinois Urbana-Champaign, Rehg Lab (**with Prof. James M. Rehg, Ozgur Kara**)

Urbana, US

- First author of **SEGUE** (implementation, experiments, technical writing), which introduces **one-shot transition effect generation**: given one reference clip of a transition effect, generate that effect between two new clips.
- Identified the **text shortcut** in prior methods and designed two fixes: visual reference isolation and null-reference guidance.
- Built the **SEGUE-Benchmark** (1,692 transition classes, 56K pairs) and a **transition fidelity metric**; outperforms all baselines on automatic metrics, and human raters preferred SEGUE to the strongest prior method in **83% of comparisons**.
- Code and model will be released as the first open-source framework for the task.

Undergraduate Researcher

Sep 2024 — Jan 2025

Boğaziçi University (**with Prof. Birkan Yılmaz**)

Istanbul, TR

- Built a **3D terrain generation pipeline** fusing **VGG19-based morphology transfer** with **Gaussian/Perlin procedural priors**.
- Enabled controllable world-topology synthesis **without training a generator**; achieved **15× lower memory** and **+1.7% SSIM** vs. GAN baselines.

Research Intern

Aug 2023 — Sep 2023

Turkish Aerospace

Ankara, TR

- Improved **small-object detection** for UAV post-disaster perception by modifying SOTA vision model architectures.
- Integrated **custom cross-attention** layers and added a **P2 feature map** to YOLOv5 for fine-grained texture capture.
- Achieved **70% → 78% mAP** on very small objects.
- Performed UAV simulation experiments with **ROS + Gazebo**.

Undergraduate Researcher

Sep 2022 — Apr 2023

Boğaziçi University, DeepMIA Lab (**with Dr. Yasin Almalioglu, University of Oxford**)

Istanbul, TR

- Built the **semantic segmentation** models for the lab's autonomous driving agent, developed for the **CARLA Autonomous Driving Leaderboard**.
- Designed and compared segmentation architectures and evaluated them in closed-loop driving in the CARLA simulator.

PROFESSIONAL EXPERIENCE

Founding AI Engineer

Nov 2024 — Jan 2026

Solace

Istanbul, TR

- Led all AI development as founding engineer; helped the company **raise \$250K in pre-seed funding**.
- Built the product's **real-time avatar generation and lipsync** system: **conditioned the avatar on live user input** (speech, agent actions) to switch states, with **30+ FPS interpolation** for smooth state transitions.
- Designed a **wakeword model** (97.9% acc., 0.99 F1) running in **18 ms with 8 KB RAM** on embedded hardware, and built its full data pipeline (**collection, curation, training**) over 192k samples.
- Built the product's **real-time multimodal agent** (wakeword → speech → avatar → action).
- Trained and deployed **BERT/ModernBERT** models in the production low-latency pipeline (Pipecat + LiveKit).

Co-Founder

Jul 2024 — Nov 2024

Gotcha

Istanbul, TR

- Built the **technical foundation** later transferred into Solace.
- Designed **end-to-end ML pipelines**: JD/CV parsing, Lightcast skill extraction, FAISS search, weighted scoring.
- Developed **semantic matching** and **LLM-based interview analysis** using CEFR-aligned linguistic models.

AI Engineer

Nov 2023 — Jun 2024

HiRize AI

Remote, US

- Engineered **document intelligence** pipelines using Transformers, OCR, and custom entity-extraction modules.
- Deployed large-scale systems for enterprise document workflows.

ML & Data Science (Part-Time)

Jan 2023 — Aug 2023

Turkish Airlines Technology

Istanbul, TR

- Developed and optimized ML models for fraud detection.
- Integrated ML solutions into production environments.

LANGUAGES

- *English* - IELTS Academic Band: 8.5
- *Turkish* - Native