

Oguz Kagan Hitit

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Education

Koç University, College of Engineering, Istanbul, Turkey *Sep 2020 – Present*
B.S. in Electrical & Electronics Engineering (Track in Artificial Intelligence)
B.S. in Computer Engineering (Double Major)
Cumulative GPA: 3.70, Area GPA: 3.78 (%100 merit scholarship)

Boston University, College of Engineering, Boston, MA *Sep 2022 – Jan 2023*
B.S. in Electrical Engineering
Cumulative GPA: 3.56, Area GPA: 3.71 (%100 merit scholarship, transferred to BU, did not complete)

Research Experience

UG Researcher Assistant, [Helmholtz Munich \(TUM\)](#) [🔗](#) *July 2025 – Present*
Advisor: Prof. Zeynep Akata [🔗](#)

- Conducting large-scale benchmark studies to evaluate both conventional and subspace-based model merging methods across diverse LLM benchmarks.
- Investigating the theoretical and empirical limits of constructive interference, analyzing whether current state-of-the-art merging techniques truly achieve synergistic generalization across tasks.

UG Researcher Assistant, [KUIS AI Center](#) [🔗](#) *July 2025 – Present*
Advisor: Assoc. Prof. Aykut Erdem [🔗](#)

- Researching generative image models within the continual learning domain, focusing on maintaining visual knowledge across sequential style updates.
- Exploring diffusion-based LoRA architectures for multi-style transfer while preserving identity and prior stylistic representations.

UG Researcher Assistant, [Koç University GGLab](#) [🔗](#) *June - Aug 2024*
Advisor: Asst. Prof. Güzde Gül Şahin [🔗](#)

- Integrated lightweight NLI models with Dialogue State Tracking (DST) on MultiWOZ 2.4 to enhance conversational AI.
- Implemented BIO-tagging-based slot extraction and evaluated end-to-end improvements.

UG Researcher Assistant, [Boston University STIR Group](#) [🔗](#) *Sep 2022 – Aug 2024*
Advisor: Prof. Vivek Goyal [🔗](#)

- Developed probabilistic algorithms to mitigate noise in particle-beam microscopy images, improving data reliability.
- Analyzed and optimized resolution-enhancement techniques for higher-quality imaging.
- Co-authored three publications, presented a poster at Microscopy & Microanalysis (M&M) 2023.

UG Researcher Assistant, [Koç University CALICOLAB](#) [🔗](#) *Jan - June 2022*
Advisor: Asst. Prof. Murat Kuşçu [🔗](#)

- Investigated translation of odor molecules into neural activity patterns in the olfactory circuit.
- Conducted real-world scattering experiments to improve mathematical modeling of odor conduction.

Work Experience

Co-Founder, [Leagle](#) [🔗](#), Istanbul, Turkey *April 2024 – Present*

- Developed LLM-powered agents to automate legal workflows, enhancing efficiency and enabling professionals to focus on high-value strategic tasks.
- Led NLP solution design and full-stack development for the successful launch of Leagle's web platform.

Software Engineer, [Valensas](#) [🔗](#), Istanbul, Turkey *July – Dec 2024*

- Designed and implemented backend APIs for enterprise fintech solutions, including the *Loyalty* and *Paranoi* platforms for Turkish Airlines.
- Integrated third-party APIs and services into core systems to ensure seamless interoperability.
- Built tailored Docker images for deploying GraalVM-based applications across diverse production environments.

Software Engineering Intern, Koç University IT Department, Istanbul, Turkey

Jan – July 2024

- Designed and developed the Flutter-based *KUGate* app to streamline campus access and security workflows.
- Enhanced the *KUHub Mobile* app by implementing new features to improve user experience and functionality.

Software Engineering Intern, [ASELSAN](#), Ankara, Turkey

Aug – Sep 2023

- Developed a Unity-based infrared gesture recognition system for potential integration into helmet avionics.
- Implemented a UDP-based data transmission protocol enabling low-latency communication for remote pilot training simulations.

Projects

- **Trajectory-Aware RL for Efficient Multi-Hop Retrieval** [↗](#)
Final Project, *COMP438 Reinforcement Learning*, Spring 2025.
- **Identity-Preserving Portrait Stylization with LoRA-Based Diffusion Models** [↗](#)
Final Project, *COMP447 Deep Unsupervised Learning*, Spring 2025.
- **Enhancing Coreference Resolution via POS-Enhanced Transformers** [↗](#)
Final Project, *COMP442 Natural Language Processing*, Spring 2024.

Honors

- **62nd** nationwide in Turkey's 2020 University Entrance Exam (*YKS*); among > 2,000,000 candidates.
- Koç University *Dean's Honor Roll*, 2020–2024.
- **3rd** place, TUBITAK Undergraduate Research Projects Competition (2021), Defense, Space & Aeronautics category.

Skills

- **Languages & Libraries:** Python, Java, Kotlin, C, SQL; PyTorch, CUDA; Django, Spring Boot, React, Flutter
- **Systems & Tools:** PostgreSQL, Microsoft Azure, Git, Linux; Docker/Kubernetes (k3s), Slurm; Firebase
- **Research Areas:** Model merging theory; generative style transfer in T2I models; reinforcement learning in natural language processing applications; computational imaging & microscopy.

Publications

- Akshay Agarwal, Leila Kasaei, Xinglin He, Ruangrawee Kitichotkul, Oguz Kagan Hitit, J. Albert Schultz, Leonard C. Feldman, Vivek Goyal, *[Ion Count-Aided Microscopy for Quantitative, Shot Noise-Mitigated Secondary Electron Imaging](#)* [↗](#), *Microscopy and Microanalysis*, Vol. 30, Suppl. 1, July 2024.
- Akshay Agarwal, Leila Kasaei, Xinglin He, Ruangrawee Kitichotkul, Oguz Kagan Hitit, Minxu Peng, J. Albert Schultz, Leonard C. Feldman, Vivek Goyal, *[Shot Noise-Mitigated Secondary Electron Imaging with Ion Count-Aided Microscopy](#)* [↗](#), *Proceedings of the National Academy of Sciences*, Vol. 121, No. 31, July 2024.
- Oguz Kagan Hitit, Akshay Agarwal, Vivek Goyal, *[Fourier-ring Correlation Resolution for Time-resolved Measurement in Charged Particle Microscopy](#)* [↗](#), *Microscopy and Microanalysis*, Vol. 29, Suppl. 1, Aug. 2023.