Doğa Yılmaz

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EDUCATION

2021 – 2023 — **M.Sc. in Artificial Intelligence – Özyeğin University**
- Faculty of Engineering, Department of Computer Science – Awarded Fellowship – GPA: 3.81/4.00
- Advisor: Assist. Prof. Dr. Furkan Kıraç
- Research Interests: Computer Vision, Computer Graphics, 3D Reconstruction, Inverse Rendering
- Thesis: Illumination-Guided Inverse Rendering Benchmark: Learning Real Objects with Few Cameras

2016 – 2020 — **B.Sc. in Computer Science — Özyeğin University**
- Faculty of Engineering, Department of Computer Science
- Advisor: Assist. Prof. Dr. Furkan Kıraç
- Thesis: Deep Residual Autoencoder for Real Image Denoising

EXPERIENCE

11/2023 – Present — **Research Intern**

University College London Computational Light Laboratory (CLL) – London, UK
- Conducted research in perceptual graphics and vision under Dr. Kaan Akşit's mentorship, in collaboration with Adobe Research.
- Contributed to the development of "Odak," an open-source scientific computing framework for optical sciences, computer graphics, and visual perception.

08/2022 – Present — **Research Engineer**

Fishency Innovation – Stavanger, Norway
- Key contributor to the development of an inverse rendering-based state-of-the-art fish biomass estimation project, leading to a peer-reviewed and published algorithm, and a highly accurate system with over 90% accuracy in biomass estimation. Employed software tools, including Mitsuba 3, PyTorch, and Python.
- Deployed and scaled the underwater fish biomass estimation software to the existing hybrid infrastructure.
- Developed 2D/3D visualization tools to validate and debug several machine learning pipelines.

02/2021 – 10/2023 — **Graduate Research & Teaching Assistant**

Özyeğin University Vision and Graphics Laboratory (VGL) – Istanbul, Turkey
- Actively participated in research mainly on inverse rendering and auto-white balance correction, yielding multiple publications.
- Contributed as a teaching assistant across a range of university courses, offering academic support and guidance to students.
- Courses Assisted: Advanced C++ Programming, Programming Paradigms, Data Structures and Algorithms, Object-Oriented Programming, Agile Software Development
- Academic Service: Reviewer, RCV Workshop ICCV; Reviewer, ReScience C Journal

PUBLICATIONS

2023 — Kınlı, F., **Yılmaz, D.**, Özcan, B., and Kıraç, F., DeNIM: Deterministic Neural Illuminant Mapping for Efficient Auto-White Balance Correction, IEEE ICCV Workshop on Resource Efficient Deep Learning for Computer Vision, 2023.

2023 — **Yılmaz, D.**, Kıraç, F., Illumination-guided inverse rendering benchmark: Learning real objects with few cameras. Computers & Graphics, 115, 107-121.

2023 — Kınlı, F., **Yılmaz, D.**, Özcan, B., and Kıraç, F., Modeling the Lighting in Scenes as Style for Auto White-Balance Correction, IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2023.

2022 — **Yılmaz, D.**, Kınlı, F., Özcan, B., and Kıraç, F., "[Re] Lifting 2D StyleGAN for 3D-Aware Face Generation", ReScience C, 8(2), 2022. Presented at NeurIPS 2022 Journal Track.

PROJECTS

02/2022 – 06/2022 — Ray Tracing Parallelization With OpenMP
- Conducted an in-depth analysis of a C++ ray tracing implementation with VTune profiler, identifying critical performance hotspots.
- Parallelized the sequential ray tracing implementation using OpenMP.
- Benchmarked sequential versus parallel code, assessing CPU use, time, and memory/cache allocation with VTune and Valgrind, observed up to 300 times performance improvement.

SKILLS

Languages — English: Advanced (IELTS: 7.5/9), German: Beginner, Turkish: Native

Programming — Python, Modern C++(17/20), Java

Technologies — PyTorch/LibTorch, Mitsuba 3, Kornia, OpenCV, OpenMP, AWS(S3, EC2, Rekognition), Docker, Blender3D

AWARDS AND ACHIEVEMENTS

02/2024 — Honored with a financial award by the Scientific and Technological Research Council of Turkey[1] for contributions to international research.

10/2020 — Ranked 1st in Turkey and 172nd globally out of 2155 teams in IEEEXtreme[2] 14 programming competition.

EXTRACURRICULAR ACTIVITIES

2020 — Led the organization of Global Game Jam (GGJ)[3] 2020 at Özyeğin University.

2019 — Coordinated the IEEE Computer Society Özyeğin University Student Branch in the 2019 academic year.

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[1] The Scientific and Technological Research Council of Turkey (TÜBİTAK) serves as the governmental agency responsible for the scientific and technological affairs of Turkey.

[2] IEEEXtreme is a global challenge in which teams compete in a 24-hour time span against each other to solve a set of programming problems.

[3] Global Game Jam® (GGJ) is the world's largest game jam (game creation) event taking place around the world.