

# H. Umut Suluhan

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## Education

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### University of Arizona

*PhD, Electrical and Computer Engineering*

Jan 2023 – Present

*Tucson, AZ, United States*

### Ozyegin University

*BS, Computer Science*

Sep 2018 – Jan 2023

*Istanbul, Turkey*

## Experience

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### Graduate Research Assistant

*University of Arizona*

Jan, 2023 – Present

*Tucson, AZ, United States*

- Development of placement algorithm for small-scale CGRA architecture.
- Design of little RISC-V cores to enhance resource management of heterogeneous SoCs.
- Development of real-time memory contention monitoring system on heterogeneous SoCs.
- Design and implementation of systolic hardware accelerators.
- Enabled rapid integration and deployment of neural networks to heterogeneous SoCs [3].
- Implemented benchmarking applications for heterogeneous SoC runtime system [2].

### Undergraduate Research Assistant

*The Scientific and Technological Research Institution of Turkey (TUBITAK)*

Sep, 2021 – Dec 2022

*Istanbul, Turkey*

- Developed a deep neural network for reference-based super-resolution task [1].
- Deployed the model on a GPU-based embedded system.

## Publications

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[3] H. U. Suluhan, S. Gener, A. Fusco, H. F. Ugurdag, and A. Akoglu, “Pytorch and cedr: Enabling deployment of machine learning models on heterogeneous computing systems,” in *ACS/IEEE International Conference on Computer Systems and Applications*. IEEE, 2023. (Accepted)

[2] J. Mack, S. Gener, S. Hassan, H. U. Suluhan, and A. Akoglu, “Cedr-api: Productive, performant programming of domain-specific embedded systems,” in *2023 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*, 2023, pp. 16–25.

[1] H. U. Suluhan, H. F. Ates, and B. K. Gunturk, “Dual camera based high spatio-temporal resolution video generation for wide area surveillance,” in *2022 18th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. IEEE, 2022, pp. 1–8.

## Specialized Skills

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**Programming Languages:** C-C++, Python, Verilog, CUDA, Java

**Hardware and Embedded Design:** Heterogeneous SoC, RTL Design, RISC-V, FPGA Design Tools

**Software Knowledge:** Machine Learning, PyTorch, Linux, Git

**Spoken Languages:** English, Turkish

**Miscellaneous:** Latex