Muhammad Hamis Haider

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Professional Summary

I design secure and efficient computing architectures for deployable AI systems, with a focus on edge computing and privacy-sensitive applications. My work spans RISC-V systems, FPGA acceleration, and hardware–software co-design, including support for large language models in regulated domains. I work close to the hardware, developing AI accelerators and secure SoCs using near-data and multi-precision computing, with hands-on RTL design in Verilog/SystemVerilog and UVM-based verification.

I emphasize scalable engineering practices by building reusable frameworks and streamlined workflows that improve productivity and enable rapid, high-quality system development.

Experience

Postdoctoral Fellow *Saskatoon, SK, Canada*
KoLab, University of Saskatchewan *Feb 2026 – present*

- Developed deep learning models for the detection of gravitational waves in LIGO data
- Published 3 peer-reviewed research papers about the project and results

Software Engineer *Aug 2018 – present*
Freelancer
Selective contract-based software and web engineering projects delivered for external clients. Visit my website for more details.

- Developed a 3D door placement and visualization engine for an online retail platform using ray-traced lighting and shadowing to generate near-photorealistic room previews from user images with ~30% improved loading speed than competitors.
- Contributed across full-stack development and performance optimization, reducing page load times by approximately 30–55% across multiple client websites.
- Consistently exceeded client expectations with early delivery and maintained a 5-star Fiverr rating, with repeat clients and testimonials citing strong communication and problem-solving.

Publication

Visit my website for more details

Projects

Visit my website for more details

Education

University of Saskatchewan *Saskatoon, SK, Canada*
PhD in Electrical and Computer Engineering *Sept 2021 – Jan 2026*

- Working on the optimization of autonomous vehicles in urban environments

National University of Sciences and Technology (NUST) *Lahore, Punjab, Pakistan*
BS in Electrical Engineering *Sept 2017 – June 2021*

- GPA: 3.9/4.0, ranked 1st out of 100 students
- Awards: Best Senior Project, High Honor

Skills

ASIC & FPGA Design:

Programming: Proficient with Python, C++, and Git; good understanding of Web, app development, and DevOps

Mathematics: Good understanding of differential equations, calculus, and linear algebra

Languages: English (fluent, CELPIP-G[L/R/W/S]: 12/11/12/11), Urdu (native)