Samir Dherar

720-238-1445 Samirdherar@gmail.com linkedin.com/in/Samirdherar

Education

University of Colorado Boulder - B.S Electrical and Computer Engineering **May 2026**
Minor in Computer Science *Boulder, CO*

Skills

- Programs: C++, Python, System Verilog, Latex
- Developer Tools: GitHub, MATLAB, Computer Aided Design, Vivado, Wavegen, LTspice Excel, PowerPoint.
- Technical: Circuit Design and Analysis, Micro-controllers, Laser Cutting, 3D printing, 3D scanning.

Experience

Integrated Teaching and Learning Laboratory **December 2022 - Present**
Engineering Support Student *University of Colorado, Boulder*

- Resolved technical issues and challenges while providing technical support for student projects, demonstrating effective problem-solving skills.
- Demonstrated mastery in 3D printing, laser cutting, and 3D scanning by leading workshops, troubleshooting technical obstacles, and offering guidance for project design and development

Takeoff Institute **June 2023 - August 2023**
Fellow *remote*

- Conducted in-depth research on Energy Access in rural African communities, Utilizing networking opportunities to engage with energy professionals, gaining valuable insights, and expanding knowledge.
- Analyzed and synthesized research data to develop a nuanced understanding of energy access issues and their implications.

Frontiers Stem Progam **May 2022 - August 2022**
Summer Program *Worcester, MA*

- Accomplished successful resolution of a robotics challenge using the engineering design process, demonstrating proficiency in forces, torque, and research methodologies.
- Collaborated with my team to construct and program a robot using Python, enabling it to navigate obstacles utilizing sensors, showcasing proficient programming and problem-solving abilities.

Projects

Whack-a-Mole Game | *Verilog* **December 2023**

- Led the project from conception to completion, overseeing the design and implementation of a Whack-a-Mole game on the FPGA Basys 3 board.
- Applied advanced Verilog programming techniques within Vivado to implement crucial components such as clock dividers, binary to decimal converters, and timers. These components were seamlessly integrated to enhance the gameplay and interaction on the Basys seven-segment display.

Mechanical Flower | *Circuits, Micro-controllers* **October 2022**

- Developed a successful implementation of a project utilizing sensors to measure light intensity, enabling motor-controlled opening and closing of flower petals.
- Conducted hardware maintenance to ensure project integrity, including the replacement of faulty components, requiring strong attention to detail and precision.
- Conducted extensive reliability and functionality testing by observing data with different end-users and in various environments, demonstrating strong analytical and data interpretation skills.

Dish Holder | *CAD* **April 2021**

- Led the product design of a dish holder board using CAD, demonstrating strong design and project management skills.
- Utilized a comprehensive engineering design process to conceptualize and develop a customized solution addressing the needs of an end-user with a hand disability. The designed solution significantly improved her ability to perform previously challenging tasks, showcasing innovation and empathy in problem-solving.

Structured Data Storage and Retrieval | **July 2023**

- Implemented efficient data structures and algorithms in C++ to achieve hashing and chaining for movie review storage.
- Leveraged C++ capabilities to create and maintain priority queues, facilitating the organization of movie reviews based on chronological order