Samiya Ali Zaidi

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EDUCATION

HABIB UNIVERSITY
Computer Engineering
Expected June 2025
Karachi, Pakistan
CGPA: 3.91/4.00

KENNESAW STATE UNIVERSITY
Computer Engineering
Aug - Dec 2023
Kennesaw, Georgia, USA
CGPA: 4.00/4.00
Fully funded exchange semester sponsored by the U.S. Department of State.

BEACONHOUSE COLLEGE PROGRAMME
Karachi, Pakistan
GCE Advanced Level in Biology, Physics, Chemistry, and Mathematics
Grades: 4A*s

COURSEWORK

SOFTWARE
Object Oriented Programming
Software Engineering
Discrete Mathematics
Neural Networks & Machine Learning

HARDWARE
Electric Circuit Analysis
Basic Electronics
Computer Architecture & Organization
Signals & Systems
Data Communication & Networking
Digital Signal Processing
Digital System Design

SKILLS

PROGRAMMING
Experienced:
Python • C++ • Verilog
Familiar:
HTML/CSS/JavaScript • React Native • RISC-V Assembly

TOOLS/APPLICATIONS
VS Code • OrCAD PSpice • OpenLane • MATLAB • Vivado • YOSYS • Matplotlib • Pandas • SDL • LaTeX • PyTorch • Tensorflow • Keras • Numpy • Android Studio

OPERATING SYSTEMS
Windows • Linux Ubuntu • Raspbian

LINKS

LinkedIn: linkedin.com/in/samiya-ali-zaidi
Github: github.com/samiyaalizaidi
ORCID: orcid.org/0009-0008-1907-1542
Google Scholar: Click here to visit my profile

EXPERIENCE

HABIB UNIVERSITY | Undergraduate Student Researcher
Jun. 2023 – Aug 2023 | Karachi, Pakistan

- Worked on a faculty-led research project titled *Improved Camouflaged Object Detection*.
- Conducted comprehensive literature reviews on state-of-the-art camouflaged object detection techniques.
- Developed and implemented innovative detection pipelines to enhance accuracy and overall performance metrics.
- Collaborated closely with faculty and peers to design experiments and analyze results.

HABIB UNIVERSITY | Teaching Assistant and Peer Tutor
Dec. 2022 – May 2024 | Karachi, Pakistan

- Served as a Teaching Assistant for **Data Structures & Algorithms** and **Signals & Systems** courses, and provided tutoring for a **Python Programming Workshop**.
- Assisted course instructors during lab sessions, supporting students with lab exercises and problem-solving.
- Conducted regular office hours to help students with homework assignments, lab problems, and exam preparation.

RESEARCH PUBLICATIONS

CONFERENCES

- Hussain, S.M., **Zaidi, S.A.**, & Hyder, A. (2023). "Integrating Ensemble Learning into Remote Health Monitoring for Accurate Prediction of Oral and Maxillofacial Diseases." 2023 IEEE 25th International Multi-topic Conference.

DESIGN EXPERIENCE

LOW PASS FIR FILTER FOR AUDIO APPLICATIONS
Implemented a 32-tap low-pass Finite Impulse Response (FIR) filter for audio applications.

- Utilized MATLAB `filterDesigner` to design and implement a filter meeting precise specifications.
- Digitally generated audio signals and represented them in signed binary format.
- Successfully implemented the FIR filter in Verilog, ensuring proper functionality and performance.

CLASSIFICATION ON RASPBERRY PI
Developed and deployed computer vision models on Raspberry Pi.

- Trained two models: one for classifying handwritten digits with 99% testing accuracy, and another for classifying cats and dogs with 92% testing accuracy.
- Deployed both models on a Raspberry Pi for real-time inference, demonstrating effective integration of computer vision and embedded systems.

PIPELINED RISC-V PROCESSOR
Designed a processor capable of handling the RISC-V instruction set using Verilog.

- Implemented pipelining to manage instruction, component, and memory hazards, allowing the processor to handle up to 5 instructions simultaneously.
- Programmed the processor to sort an array of numbers in descending order using the selection sort algorithm.

SPACE SHOOTER GAME
Developed as the final project for an object-oriented programming course.

- Designed and implemented a multi-level space shooter game with escalating difficulty.
- Utilized object-oriented programming (OOP) principles, incorporating 15 classes to demonstrate key concepts such as polymorphism and the singleton pattern.
- Programmed the game in C++ using the SDL 2 library for advanced graphics rendering.

HONORS/AWARDS

2023 President's List for Fall 2023 - Kennesaw State University
2023 Principal Candidate for Global UGRAD-Pakistan Fall 2023
2023 Dean's Honors List - Fall 2022 & Spring 2023
2022 Recipient of 75% Scholarship for Stanford IHP 2023
2021 Recipient of Habib Excellence Scholarship (4-year scholarship)
2021 Recipient of Habib Meritorious Award
2019 Recipient of 100% scholarship for A-levels