

Sameep Salekar

Electrical Engineering (Microelectronics)

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EDUCATION

Bachelor’s in Electrical Engineering
BYU-I

Idaho, USA

Expected Graduation - June 2027

High School Diploma

Troy High School

Michigan, USA

May 2021

PROGRAMMING LANGUAGES

ARM7 Assembly

System Verilog

C-Language

C#

Python

MySQL

Verilog

HARDWARE

STM32 Nucleo-L476RG

PCD8544 GLCD

Basys 3 Board

Arduino Uno

HC-SR04

TECHNICAL SKILLS

Object-Oriented Programming

Peripheral Interfacing

GUI Development

Embedded Systems

Circuit Simulation

Digital Logic Design

TOOLS

STM32CubeIDE

ArduinoIDE

Vivado

Logisim

VS Code

LTspice

MATLAB

LANGUAGES

English

Swedish

Marathi

Hindi

RELEVANT COURSEWORK

- Microprocessors Based Systems
- Digital System Design
- Electronic Circuit Fabrication
- VLSI Systems Design
- Electronic Devices & Circuits
- Computer Systems
- Electrical Circuit Analysis
- Signal & Systems
- Signal & Power Integrity
- C language

WORK EXPERIENCE

Teacher Assistant for Digital Systems

Brigham Young University Idaho, USA

April 2024 - Present

- Increased the avg. grade by 28% through FPGA-architecture tutoring
- Achieved 90% lab-report submission rate by assisting students in labs
- Instructed students with hardware description languages

PROJECTS

Interactive Periodic Table

- Developed an interactive C# application featuring all 118 chemical elements
- Built a molecular formula parsing engine to calculate the molar masses
- Implemented shell diagrams, isotope data, and electron configurations
- Applied the OOP principles like inheritance, abstraction, and encapsulation

PCD8544 GLCD Animation Project

- Configured SPI communication between STM32 & PCD8544 GLCD
- Implemented custom font display with timed transitions
- Achieved full-duplex synchronisation

Analog-to-Digital Converter

- Configured STM32 Nucleo-L476RG for analog signal sampling
- Integrated timers and PMW to dynamically control RGB LED
- Enabled real-time color control of an RGB LED

Home-Entry System

- Programmed STM32 Nucleo-L476RG to handle external interrupts from keypad
- Implemented password-based access control with LED feedback
- Designed state-driven firmware ensuring reliable input capture

Home Security System (Magnetic Reed Sensors)

- Developed C-based embedded firmware to detect intrusion using reed switches
- Configured GPIO pins for digital I/O and pull-up resistor activation
- Monitored sensor states and triggered alerts through LEDs

ALU with Multiplexers

- Designed a 4-bit ALU in Logisim and SystemVerilog
- Built hierarchical subcircuits using MUXes & verified them with test-vector files
- Applied modular HDL design principles for scalability and circuit reliability

Ultrasound Distance Sensor

- nterfaced HC-SR04 sensor with Arduino for real-time distance measurement
- Programmed LED and buzzer alerts triggered by threshold proximity readings
- Demonstrated hardware-software integration by accurate echo-time processing