

# Kishore Kumar A.

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## EDUCATION

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### Oregon State University

Corvallis, OR

*Honors Bachelor of Science in Electrical and Computer Engineering; Minor in CS*

*Expected Jun. 2027*

- **GPA: 4.00 / 4.00**
- **Relevant Coursework:** Electronic Circuit Design, Digital Signal Processing, Digital Logic Design, Computer Organization, Data Structures, Analysis of Algorithms.

## TECHNICAL SKILLS

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**Hardware & EDA:** KiCad, SystemVerilog, SystemC, FPGA, Schematic Capture, PCB Layout, Circuit Simulation (SPICE)

**Embedded Systems:** C, C++, FreeRTOS, ESP-IDF, Microcontrollers (ESP32), I2C, SPI, UART

**Software & Tools:** Python, TypeScript, Node.js, Next.js, Linux (Ubuntu), Git

**Lab Equipment:** Oscilloscopes, Function Generators, Logic Analyzers, Multimeters, Soldering

## EXPERIENCE

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### Research Assistant (Prof. Lizhong Chen)

April 2026 – Present

*STAR Lab, Oregon State University*

*Corvallis, OR*

- Collaborating on the development of a multi-agent AI system designed to automate RTL generation and the VLSI design flow.
- Mastering synthesizable SystemC, Verilog, and AI accelerator architectures to support the modeling of next-gen hardware-software co-design.

### EECS Undergraduate Learning Assistant (ENGR/ECE 202)

April 2026 – Present

*Oregon State University*

*Corvallis, OR*

- Facilitate 2 weekly lab sections and office hours, guiding students through complex circuit analysis, Kirchhoff's laws, and operational amplifier configurations.
- Evaluate pre-lab and post-lab technical reports for accuracy in circuit simulation and physical hardware implementation.

### Software Engineer

June 2025 – Present

*BeaverHacks*

*Remote*

- Scale and maintain a digital platform serving 10,000+ visitors, ensuring system reliability through meticulous code reviews and **cross-functional team collaboration**.
- Built technological infrastructure to support growth from 50 to 300+ participants, requiring high-level technical auditing and attention to detail.

## TECHNICAL PROJECTS

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### End-to-End Custom IoT Telemetry System | C, FreeRTOS, KiCad, MQTT, NextJS

- Engineered a **multi-layer PCB in KiCad** integrating an ESP32, battery management (TP4056), and auto-programming logic.
- Developed concurrent C firmware using FreeRTOS for bare-metal I2C sensor drivers and asynchronous MQTT data transmission.
- Optimized system power for Deep Sleep modes and deployed a full-stack Next.js dashboard for real-time telemetry visualization via WebSockets.

### FPGA Real-Time Digital Clock | SystemVerilog, FPGA, Hardware Verification

- Engineered a real-time digital clock on an FPGA using SystemVerilog, implementing logic for a precise HH:MM:SS display format.
- Developed synchronous logic circuits and frequency dividers to translate the high-frequency onboard oscillator into accurate 1 Hz pulses for timekeeping.
- Verified circuit functionality through physical hardware testing, ensuring debounced switch inputs and accurate multiplexing for the seven-segment displays.