Priyanshu Yadav

Kanpur, Uttar Pradesh, India
+91 9569947346 priyanshs.ece@gmail.com linkedin.com/in/priyanshuhbti/ github.com/priyanshscpp

TECHNICAL SKILLS

Languages : C, C++, Python, Verilog, Javascript

Tools & Framework : LLVM, Node.js, Git, Docker, Wireshark, OpenCV

Hardware & Arch : RISC-V, ARM Cortex-M4, Digital Signal Processsing(DSP), SPI, DMA, GPIO

Systems & OS : Linux/Unix, Operating Systems, RTOS, Computer Architecture, Computer Networks (TCP/IP)

EDUCATION

Harcourt Butler Technical University (HBTI - Kanpur) **2022 – 2026**
*Bachelor of Technology in Electronics Engineering — CGPA: **7.51** (Absolute Marking Scheme)* *Kanpur, Uttar Pradesh*

WORK EXPERIENCE

StoreIT - Singapore (Link) **Jun 2025 – Present**
Software Engineering Intern *Singapore (Remote)*

- **Engineered QR-based parcel tracking system** using OpenCV & React, enabling real-time scanning/verification of shipments and reducing manual processing time by 65%.
- Built app user dashboard (Node.js + MongoDB) with integrated payment gateway CI/CD pipeline for production.

Indian Institute of Technology- Delhi (Link) **Jun 2024 – Aug 2024**
Summer Research Intern *Hauz Khas, New Delhi*

- Worked on the **LLVM-based symbolic execution engine**, to enable formal verification of Smart Contracts, analyzing IR-level path analysis & automated testbench generation.
- Built an automated testbench pipeline with REST APIs and backend to convert symbolic paths into test cases.

PUBLICATIONS

RISC-V SoC with DSP Accelerators for Edge Computing | *IEEE VLSI Design -Ongoing* **arXiv Pre-print**

- Achieved **12.8× speedup by integrating a custom 1D DSP accelerator** with a 32-bit RISC-V core for edge ML workloads.
- Reduced **CPU load by 80%** and improved energy efficiency by 60% via AXI-Lite–based hardware-software co-design.

PROJECTS

Multithreaded OS Kernel Components in C/C++ | *Dynamic memory allocation, Paging* **Source Code**

- **CPU Scheduling Algorithms** : Implemented a simulated CPU scheduler with **round-robin, priority-based**, and multilevel queue policies.
- **Custom Memory Allocator :** Designed malloc/free using sbrk() and mmap; added slab allocator and paging simulation.Improved allocation performance by **1.6 times glibc** under multi-threaded tests.

Edge ML based Real-Time Keyword Spotting System | *RTOS, Threading, Embedded Linux* **Source Code**

- Trained model to detect commands → deployed on ESP32 with 95% accuracy.
- Achieved 58% of Snapdragon Hexagon DSP efficiency on Rs. 500 hardware (vs. QCOM whitepaper)

Custom SPI driver for STM32F4 in C | *Computer Networks, Wireshark* **Source Code**

- Engineered **bare-metal SPI driver** for STM32F4 using DMA and GPIO remapping.
- Simulated end-to-end communication using Docker nodes; verified with Wireshark.

SCHOLASTIC & PROGRAMMING ACHIEVEMENTS

- Secured **All India Rank 138 (Top 0.5%)** in ICPC Prelims, advancing to **India Regionals** in Amritapuri.
- **CodeForces: Priyanshs.exe** Max.rating 1609, Expert title. Attained **Global Ranks 689, 1190, 2231**.
- **CodeChef: priyanshsexe** Max.rating 1657, 3 star Coder. Attained **Global Ranks 202, 616, 846**.
- Co-led GDG Web chapter, organized 10+ React.js & DevOps workshops for **200+ participants.**