

# Mayank Neupane

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## EDUCATION

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Lassonde School of Engineering, York University

Bachelor of Engineering in Computer Engineering | GPA: 3.0/4.0

## TECHNICAL SKILLS

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**Programming:** Python, C, C++, Java, SQL, Bash, PowerShell, Verilog, SystemVerilog

**Hardware and Verification:** Digital logic, embedded systems, PCB design, circuit testing, hardware troubleshooting, testbenches, Verilator, functional simulation

**Systems and Networking:** Windows, macOS, Linux (Ubuntu), PC assembly, system configuration, TCP/IP, DNS, DHCP, Active Directory basics

**Tools:** Git, GitHub Actions, VS Code, Microsoft 365, Zendesk, AnyDesk, TeamViewer, SQL databases, asset management

## PROFESSIONAL EXPERIENCE

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Centreville Amusement Park | *Supervisor, Ride Department*

May 2023 – Sept. 2026

- Coordinated daily operations for **100+ ride operators** across multiple attractions, managing staff schedules, assignments, and operational coverage.
- Adjusted employee assignments in response to absences, scheduling conflicts, and **equipment disruptions** to maintain service coverage.
- Conducted routine **safety inspections**, identified operational risks, and coordinated corrective actions under established safety procedures.
- Prepared daily operational reports, **incident documentation**, safety inspection records, and employee performance reports for department management.
- **Trained and mentored operators** on ride procedures, safety protocols, and customer service, reinforcing consistent performance and team accountability.

## PROJECTS

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Five-Stage RISC-V Processor Core | *SystemVerilog, Python, Verilator, GitHub Actions*

Source: [github.com/Mayankneup/5\\_stage\\_pipeline](https://github.com/Mayankneup/5_stage_pipeline)

- Implemented a **32-bit RV32I processor** with a five-stage pipeline, **data forwarding**, **load-use hazard detection**, pipeline stalls, and branch flushing.
- Verified **17,848 retired instructions** against an **independent Python reference model**, checking instruction order, register results, and memory writes.
- Passed **48 benchmarks**, including 38 instruction tests and 10 full-program tests, plus **3 targeted regressions** for store forwarding, wrong-path ECALL handling, and pipeline completion on return.
- Automated simulator builds and benchmark and regression checks through **GitHub Actions**, producing verification reports and diagnostic logs.

Employee Performance Management System | *C, SQL, Linux*

Source: [github.com/Mayankneup/Data\\_base](https://github.com/Mayankneup/Data_base)

- Developed a **modular C application** with employee CRUD operations, **dynamic memory allocation**, record search, and performance-based sorting.
- Benchmarked operations across **100–10,000 employee records**; measured median no-match search and sorting times of **0.458 ms** and **0.925 ms** for 10,000 records.
- Implemented **binary file persistence and SQL export**; measured median loading and export times of **0.130 ms** and **6.443 ms** for 10,000 records in local warm-cache benchmarks.

## CERTIFICATIONS LICENCES AND AWARDS

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- **Project Management Foundations** — LinkedIn Learning | In progress
- **Ontario Class G Driver's Licence**
- **Employee of the Season** — Centreville Amusement Park | **Awarded twice**