MANISH KUMAR YADAV

manishky.official@gmail.com | mkyadav2021.github.io/html-portfolio/
LinkedIn | Google Scholar
Kathmandu, Nepal

Research Interests

Computer Architecture, Embedded Systems, Robotics, Operating Systems

Education

- **Pulchowk Campus, Institute of Engineering, Tribhuvan University** *2021-2025*
  Bachelor's Degree in Electronics, Communication and Information Engineering (Department of Electronics and Computer Engineering)
  - Grade: 79.5% (Ranked in the top 5% among ECE students)
  - Major Courses:
    - Computer Science: Programming (C, C++), Digital Logic, Microprocessor, Discrete Structure, Data Structures and Algorithms, Computer Graphics, Numerical Methods, Database Management Systems, Operating Systems, Computer Organization and Architecture, Computer Network, Embedded Systems, Object Oriented Software Engineering, Artificial Intelligence
    - Electronics and Communication: Electronics Devices and Circuits, Electromagnetics, Advanced Electronics, Control System, Filter Design, Propagation and Antenna, Communication System, RF and Microwave Engineering, Wireless Communication, Telecommunication, Digital Signal Analysis and Processing
    - Mathematics: Engineering Mathematics, Probability and Statistics

Publications

[1] Game Theoretic Approach to QoS Oriented Machine Learning Model Development towards 5G Network Migration Planning.

- Published in *IEEE Access, 2025*
- Authors: Arjun Ray, **Manish Kr. Yadav**, Babu R. Dawadi, Krishna R. Bhandari
- URL: https://doi.org/10.1109/ACCESS.2025.3563096

[2] Machine Learning-Based Attack Detection and Mitigation with Multi-Controller Placement Optimization over SDN Environment.

- Published in *MDPI, Journal of Cybersecurity and Privacy, 2025*
- Authors: Binod Sapkota, Arjun Ray, **Manish Kr. Yadav**, Babu R. Dawadi, Shashidhar R. Joshi
- URL: https://doi.org/10.3390/jcp5010010

Projects

- **8-bit computer from scratch in Proteus**
  Tools: Proteus Software, Windows Operating System
  - Implemented a clock module, registers, an arithmetic logic unit, random access memory, a program counter, and control Logic, resulting in a programmable 8-bit computer built entirely from logic gates.
- **RISC-V Single-Cycle and Pipelined Cores using Verilog**
  Tools: VS Code, Verilog
  - Implemented program counter, instruction memory, register file, data memory, arithmetic logic unit, and control unit, resulting in fully functional RISC-V single-cycle and pipelined processor cores.

Experience

- **Himalaya College of Engineering, Tribhuvan University** *May 2025 - Present*
  Teaching Assistant
  - Taught Data Communication theory classes to second and third year Computer Engineering students.
  - Conducted lab classes in Data Communication (using MATLAB), Digital Logic (using Proteus), Microprocessor (using 8085 kit), Instrumentation (using 8085, 8255 kits).
- **Cosmos College of Management and Technology, Pokhara University** *Nov 2024 - Apr 2025*
  Lab Assistant
  - Conducted lab classes on computer architecture and components; assembled desktops and laptops; installed Linux OS and network devices.
- **Pulchowk Campus, Institute of Engineering, Tribhuvan University** *Jan 2024 - Apr 2025*
  Research Assistant
  - Conducted research on Software Defined Networking and application of machine learning techniques in detection and mitigation of DDoS attacks. Also explored game theory and machine learning applications in network optimization via efficient migration from 4G to 5G. Both projects were funded by the University Grants Commission (UGC) Nepal.

SKILLS

- **Programming Languages:** Python, C++, C, MATLAB, JavaScript, Assembly, SQL
- **Hardware Description Language:** Verilog
- **Data Science & Machine Learning:** Data Collection, Data pre-processing, Supervised, Unsupervised, and Reinforcement Learning Algorithms
- **Software:** LaTeX, Ubuntu Linux, Robot Operating System (ROS), HTML, CSS

AWARDS

- **Merit-based scholarship for undergraduate engineering study**
  By Government of Nepal
  ◦ Received a full-ride scholarship based on national-level entrance ranking.
- **Academic Excellence Stipend (7 semesters)**
  By Department of Electronics and Computer Engineering, Pulchowk Campus
  ◦ Awarded for high semester rankings.
- **University Grant Commission (UGC) reward**
  By University Grants Commission Nepal
  ◦ Covered article processing charges for peer-reviewed journals.

CERTIFICATIONS

- **Coursera: Machine Learning Specialization (Stanford University)** *Oct 2023*
- **Coursera: Python for Everybody Specialization (University of Michigan)** *Nov 2022*