

Bibek Poudel

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Education

New York University Abu Dhabi

B.Sc. in Computer Engineering, GPA [3.91/4]

Minor in Robotics

Abu Dhabi, UAE

Aug 2022 – May 2026

- **NYUAD Engineering Fellowship (2024-2025):** Selected by the NYUAD Engineering Department for a one-year fellowship to study at NYU in New York, focusing on advanced coursework and collaborative research.

Valmiki Shiksha Sadan High School

Science

Nepal

Aug 2019 – Aug 2021

- *Nation 2nd, National Education Board Examination 2019*

Experience

Robot Control and Learning Lab, NYUAD

Student Research Assistant

Abu Dhabi, UAE

Apr 2025 – Present

- Working on simulation of the Franka robotic arm using MuJoCo, focusing on implementing and benchmarking various controllers for precise manipulation tasks.
- Developing and testing algorithms for simulation-to-real robot skill transfer, enabling robust deployment of learned skills on the physical Franka arm.

Flexible AI-enabled Mechatronic Systems Lab (FAMS)

Research Assistant

New York, USA

Jan 2025 – May 2025

- Designed and prototyped a 3-DOF robotic arm integrated with flexible soft robotic fingers, using SolidWorks for mechanical design and silicone molding techniques for custom actuator fabrication.
- Developed embedded sensing capabilities using flex sensors, enabling responsive grasp and deformation feedback.
- Programmed real-time control and communication systems using Raspberry Pi, ROS (Robot Operating System), and Python to achieve basic manipulation tasks and remote actuation.

Nepali Things LLC

Mobile App Development Intern

Kathmandu, Nepal

May 2024 – Aug 2024

- Developed and maintained mobile applications for an online event management system tailored to the Nepali market, using Swift for iOS and Android Studio for Android platforms.
- Collaborated with a cross-functional team to design user-friendly interfaces and implement core features such as event creation, ticket booking, and real-time notifications.
- Conducted testing and debugging to ensure seamless performance across devices, improving user experience and reliability.

Cleveland Clinic Abu Dhabi

Research Assistant

Abu Dhabi, UAE

Jan 2024 – Oct 2024

- Developed an adaptable phantom prototype for medical imaging and radiotherapy, utilizing advanced CAD modeling and 3D printing technology.
- Authored a quality control manual to streamline project processes and improve overall workflow.
- Explored certification pathways to ensure compliance with industry standards and pave the way for project accreditation.

NYUAD Plastic Recycling Research Lab

Fabrication and Operations Assistant

Abu Dhabi, UAE

Aug 2023 – Aug 2024

- Contributed to a significant reduction in plastic waste sent to landfills by managing recycling processes and educating students on proper recycling techniques.
- Played a key role in creating useful products from recycled plastic, demonstrating the practical applications of recycling and enhancing the lab's innovation.
- Increased awareness and participation in recycling initiatives through organizing events and workshops, amplifying the lab's impact on the community.

The Vijay Lab

Student Research Assistant

Abu Dhabi, UAE

Aug 2023 – Aug 2024

- Developed a handheld bio-printer prototype for precise bio-ink extrusion in tissue engineering, utilizing advanced CAD modeling and 3D printing technology.
- Designed the prototype with precision bio-ink dispensing, adjustable flow rates, and an ergonomic design for ease of use in laboratory settings.
- Achieved helical extrusion using four different bio-inks, enabling the creation of complex tissue structures with varying properties.

Karkhana Samuha

Learning Resource Design Intern

Kathmandu, Nepal

Jun 2023 – Aug 2023

- Designed unplugged coding resources for primary-level underprivileged students without computer access, using local children's games to teach basic algorithms and coding principles.
- Developed interactive learning resources for creative coding education, enhancing student engagement and learning outcomes.
- Led pilot sessions and co-facilitated workshops to validate educational materials and empower teachers with creative coding skills.

Skills

Programming Languages: C, C++, MATLAB, Python

Software Packages: Solidworks, Arduino, KiCad, TensorFlow, PyTorch, Scikit-learn, Adobe Creative Suite, LaTeX

Hardware: Arduino, Esp32, STM32 Microcontrollers, M5stack, Microbit, Laser Cutting, 3D printing, CNC machining, Raspberry Pi, Nvidia Jetson Nano

Machine Learning: Neural Networks, Deep Learning, Computer Vision, Data Analysis

Robotics: Robot Operating System (ROS), SLAM, Path Planning, Robot Kinematics

Languages: English, Nepali