Bibek Poudel

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Education

New York University New York, USA
B.Sc. in Computer Engineering, GPA [3.92/4] *Aug 2022 – May 2026*
Minor in Robotics

Experience

Flexible AI-enabled Mechatronic Systems Lab (FAMS) New York, USA
Research Assistant 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.

Cleveland Clinic Abu Dhabi Abu Dhabi, UAE
Research Assistant 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.

The Vijay Lab Abu Dhabi, UAE
Student Research Assistant 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.

Skills

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

Robotics: Robot Operating System (ROS2), Mujoco, Gazebo, Robot Kinematics

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

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

Languages: English, Nepali