Hem Raj Pandeya

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Education

Nov. 2017 – Apr. 2022 B.E. in Mechanical Engineering – Pulchowk Campus

Final year project – Optimization of eagle ray blended wing body vehicle and testing of data acquisition and decision support mechanism

Jul. 2014 – Sept. 2016   Higher Secondary Education – Radiant Higher Secondary School
Apr. 2000 – Mar.2012   School Leaving Certificate –   Anirudra Higher Secondary School

Work Experience

Mar. 2023 – Jul. 2023   National Innovation Centre (NIC) – Mechanical Design Engineer

- Selection of suitable airfoils for fixed-wing UAVs
- Design of airframe and wing by optimizing aerodynamics, strength, and durability
- Ensure the stability and control of the designs
- Testing of various locking mechanisms to connect and separate fuselage from the wing
- Develop methodology for fabrication of fuselage, wing, and control surfaces
- Design of a Foam-cutter used for the fabrication of UAVs
- Seek potential collaboration with private and public partners/organizations
- Guiding school students about various projects which are in progress in NIC

May. 2022 – Aug. 2022   Anirudra Higher Secondary School – Part-time teacher (science and mathematics)

Internship Experience

Sept. 2022 – Feb. 2023   Prokura Innovations – Mechanical Design engineer (drones)

- Design fixed-wing drones to meet mission requirements by optimizing aerodynamics, propulsion, strength, and durability
- Creating 3D models using SolidWorks
- CFD analysis of wing and fuselage
- Structural analysis of wing in ANSYS
- Operating 3D printers and laser cutter

Awards

- 2018 Unique Concept Award (B.E. Mechanical Design Competition, MechTRIX 8.0)

- 2013   Most Disciplined Student of the Year Award (Anirudra Higher Secondary School)

- 2011 Zonal Level Quiz competition (Mahakali Zone)

Programming Experience

- 2023 Self-teaching C++ and Python

- 2021 Used MATLAB extensively for solving Finite Element Method problems

- 2021   Learnt basics of Linux Operating System

- 2021   Used Arduino (based on C/C++) for collecting data using various sensors.

- 2020   Used Arduino (based on C/C++) for self-balancing robot

- 2018   Used Arduino (based on C/C++) for solar tracker

- 2017 Developed a program to solve the Sudoku puzzle

Other activities

- 2020   Awareness campaigns about the Covid-19, and ways to protect ourselves

- 2020   Volunteering work at Nyano Initiatives in distributing clothes to needy people

- 2019   Master of Ceremony for Welcome program for recent undergraduates

Interest and competencies

- Deft at using SolidWorks to create 3D models
- Good at using ANSYS for structural and fluid simulations
- Good at C programming language
- Know the basics of MATLAB, Simulink, and Python
- Know the basics of ROS and Gazebo.