Nikesh Shrestha

Bachelor of Science in Mechanical Engineering

Contact

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Online Portfolio

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Education

Bachelor of Science
Mechanical Engineering
University of Maryland
College Park, MD, USA
GPA: 3.6/4.0

Calvert Hall College
High School
Towson, MD, USA
GPA: 4.0/4.0

Skills

Technical Skills

3D Design (SolidWorks, Inventor, AutoCAD)

Microsoft Office

Simulation (ANSYS Fluent, COMSOL Multiphysics)

Programming Skills

MATLAB & Simulink

Python

C++

HTML

Machines

MakerBot 3D Printer
Bandsaw, Lathe, Belt Sander
Soldering Iron

Languages

Fluent in English
Fluent in Nepali
Conversant in French

Summary

Mechanical Engineering graduate from the University of Maryland – College Park (Aug. 2018 – Dec. 2021) with experience in research and engineering projects. Awarded multiple awards for excellence in education. Experienced various technical and soft skills through courses, projects, self-education, and involvement in multiple organizations.

Work Experience

Nano Biochip for Disease Detection, Diagnosis and Monitoring (New Jersey Institute of Technology) **(NSF REU)** [Jun. 2020 – Aug. 2020]

- Research Assistant in NJIT Advanced Energy Systems and Microdevices Laboratory.
- Developed a MATLAB algorithm for autonomous measurement of wetting angles from images.
- Investigated the visualization and characterization of fluid drop on a surface treated PDMS, and flow dynamics in PDMS microchannel for implementation in a passive plasma separation.

Undergraduate Teaching Assistant (University of Maryland) [Aug. 2020 – Dec. 2021]

- Undergraduate Teaching Assistant for Electronics and Instrumentation II; Vibrations, Controls and Optimization I; Introductory C++ & MATLAB Programming Course.
- Led lab and studio sessions with 20 to 30 students.
- Guided students with understanding course concepts and applying them to assignments.

Technical Experience

Project: Redesigning Braking System for Triathlon Bikes

- Team Leader and Team Scribe.
- Designed and built a hydraulic braking system integrated inside aerobars for Triathlon bikes.
- Implemented the Product Development Process.
- Used MATLAB, SolidWorks for design, analysis, and simulation.
- Used additive and subtractive manufacturing machines for construction.
- Presented the working prototype at the University of Maryland Design Day.

Project: Time Series Analysis: Location Prediction of Dynamical System

- Applied Machine Learning Algorithm to forecast the location and orientation of a Navy Battleship.
- Implemented Supervised Probabilistic Model: Variational Sparse Gaussian Processes.
- Utilized Probabilistic Programming language in Python: PyMC3.

Project: Designed and built an Autonomous Robot

- Designed and built a sensor car that autonomously follows the operator.
- Utilized Arduino Uno microcontroller, sensors, and actuators to autonomously detect and follow the operator at various speeds.
- Programmed using Arduino IDE and Processing 3 for operation and demonstration.

Project: Disassembly and Mechanical Analysis of HP Vista Personal Computer

- Design, Reliability and Cost analysis of Graphics and Memory Controller chip, and RAM.
- Visualized the manufacturing considerations for thermo-mechanical and vibrational effects.
- Disassembled individual components on a computer motherboard for analysis.
- Used subtractive manufacturing machines for breakdown and polishing of components.

Awards & Honors

- National Science Foundation REU Fellowship
- Dean's List for Outstanding Students
- Office of Multi-ethnic Student Education Academic Excellence Award
- G. Lee and Lou Ann Lushbaugh, Jr. Endowed Scholarship
- Sean and Sarah Durbin Scholarship
- Bechtel Corporate Partner Scholarship