Nikesh Shrestha

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Education:

University of Maryland, College Park — Mechanical Engineering (GPA: 3.6/4.0) — (Aug. 2018 – Dec. 2021)

Skills:

- Programming: MATLAB, HTML, Python, Simulink, C++, JAVA
- Software: SolidWorks, Autodesk Inventor, AutoCAD, Ansys Fluent, COMSOL Multiphysics, Microsoft Office
- Languages: English, Nepali, French, Hindi
- Soft Skills: Communication, Creativity, Critical Thinking, Leadership, Organization, Teamwork, Work Ethic

Research Experience:

Nano Biochip for Disease Detection, Diagnosis and Monitoring (New Jersey Institute of Technology)

- Conducted Research in NJIT Advanced Energy Systems and Microdevices Laboratory (Jun. 2021 – Aug. 2021)
- Developed a MATLAB algorithm for semi-autonomous measurement of wetting angles on PDMS surface.
- Investigated the visualization and characterization of fluid drop on a surface treated PDMS material, and flow dynamics in PDMS microchannel for implementation in a passive plasma separation.

Teaching Experience:

Undergraduate Teaching Assistant (University of Maryland)

- **Courses:**
  - Electronics and Instrumentation II (Aug. 2021 – Dec. 2021)
  - Vibrations, Controls and Optimization I (Jan. 2021 – May 2021)
  - C++ & MATLAB Programming Introductory Course (Aug. 2020 – Dec 2020)
- **Responsibilities:**
  - Led lab sessions with 20 to 30 students.
  - Graded Lab Reports and Homework Assignments.
  - Guided students with understanding course concepts and apply them to assignments, labs, and projects.

Technical Experiences:

Project: Time Series Analysis: Location Prediction of Dynamical System (Sep. 2021 – Dec. 2021)

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

Project: Redesigning Braking System for Triathlon Bikes (Sep. 2021 – Dec. 2021)

- Team Leader and Team Scribe.
- Designed and built a hydraulic braking system for Triathlon Bikes accessible from Aero bars.
- Adapted the Product Development Process.
- Demonstrated the prototype design to wide campus audience.
- Used MATLAB, SolidWorks for design and analysis.
- Used additive and subtractive manufacturing machines for construction.

Project: Designed and built an Autonomous Robot (Jan. 2021 – May 2021)

- Designed and built a sensor car that autonomously follows the operator.
- Examined and studies various sensors and microcontroller for operation.
- Programmed the microcontroller to follow a person at various speeds.
- Improved research, self-learning, organization, creativity, work ethic skills.

Project: Design and build a fully functioning Over Sand Vehicle (OSV). (Jan. 2019 – May 2019)

- Team Scribe; Team Leader for Design team; Team member for Build Team.
- Designed and Built an OSV which lifts a three-pronged object and identifies its magnetic property.
- Gained experience using Autodesk Inventor and programming the Romeo V2 Board.
- Used SolidWorks to design the skeletal structure of the OSV.

Volunteer/ Work Experience:

Wings Things N More (Parkville, Maryland) (Jun. 2015 – Present)
- Closing Assistant Manager, Cashier and Assistant Chef

Johns Hopkins Elder Plus (Baltimore, Maryland), (Jun. 2017 – Sep. 2017)
- Recreational Activities Assistant

Cultural Academy for Excellence (Mt. Rainier, Maryland), (Jan. 2019 – May 2019)
- Tutored elementary school kids attending Prince George County Public School

Amazon Warehouse (Nottingham, Maryland) (Dec. 2020 – Aug. 2021)
- Warehouse Team Member in Sort Center

Flynn O'Hara Uniforms (Parkville, Maryland) (Jun. 2018 – Aug. 2019)
- Main Embroiderer and Cashier

Clubs and Organizations:
- AMSE (American Society of Mechanical Engineers)
- NSA (Nepalese Student Association): Treasurer
- NSAFC (Nepalese Student Association Football Club)
- CEC United (Local Baltimore Soccer Club): Treasurer and Player
- Culinary Club: Club Member