

# Nikesh Shrestha

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**Summary:** Mechanical Engineering major attending University of Maryland. Awarded multiple awards for excellence in education. Learned various skills through self-education and experience in various projects and involvement in multiple organizations. Excellent in interpersonal communication, working in a team and working individually. Well-organized, great at time-management and great presentation skills. Highly interested in Automotive, Robotics and Automation.

## **Education:**

University of Maryland, College Park	Mechanical Engineering (GPA: 3.6/4.0)	(August 2018 – Present)
Calvert Hall College High School	High School Diploma (GPA 4.0/4.0)	(August 2014 – June 2018)

## **Skills:**

- Programming: C++, MATLAB, HTML, Python, 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)

- Participated in NJIT REU-2021 Program (Summer 2021)
- Worked in Dr. Eon Son Lee's lab (NJIT Advanced Energy Systems and Microdevices Laboratory)
- Developed a MATLAB code for semi-autonomous measurement of contact angles.
- Studied to understand and research the implementation of surface tensions in a microchannel for passive plasma separation.
- Studied a Visualization and Characterization of Fluid Drop on a surface-treated PDMS material, and flow dynamics in PDMS microchannel

## **Teaching Experience:**

**Undergraduate Teaching Assistant for Electronics and Instrumentation II** (University of Maryland)

- Led lab sessions: (Fall 2021)
- Grade Lab Reports

**Undergraduate Teaching Assistant for Vibrations, Controls and Optimization I** (University of Maryland)

- Helped students with homework assignments during office hours. (Spring 2021)
- Graded Homework Assignments

**Undergraduate Teaching Assistant for C++ & MATLAB Programming course** (University of Maryland)

- Lead Studio sessions: reviewed concepts from lecture; helped students with "in-class" projects (Fall 2020)
- Graded Homework Assignments and Studio projects
- Helped students understand lecture material and apply them to homework assignments during office hours.

## **Projects:**

**Project: Designed and built a Sensor Robot**

(Spring 2021)

- Designing and building a sensor robot that follows you.
- Understanding and applying sensors and microcontroller (Arduino) for operation.
- Programming the microcontroller to follow a person.
- Improved research, self-learning, organization, creativity, work ethic skills.

**Project: Redesign a Power Drill**

(Fall 2020)

- Understanding all the functional and physical components of a DCD701 Power Drill.
- Identifying areas that can be improved and engineering changes in that area.
- Improved thermal management of the drill at the most used orientation of the drill (reverse airflow).
- Team Scribe; Team Leader while exploring the transmission and electrical component of the drill.
- Improved teamwork, collaboration, presentation, time management, organization skills and attention to detail.

- Used MATLAB, AutoCAD, Excel for bi-weekly reports.

**Project: Design and build a fully functioning Over Sand Vehicle.** (Spring 2019)

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

**Project: Design and build the most efficient truss support.** (Fall 2019)

- Design and Build a Truss Structure which can support the highest load.
- Learned the importance of planning and calculations necessary in a project.
- Created a computer aided design of the truss with animation at failure.

**Project: Design a skeletal structure of a toy helicopter using CAD.** (Fall 2019)

- Replicate all parts of a fully functioning Toy Helicopter using CAD.
- Worked with other team members to design a Toy Helicopter using SolidWorks.
- Team Scribe: checked the status of progress and ensured everything was completed before the deadline.

### Volunteer/ Work Experience:

**Johns Hopkins Elder Plus** (4940 Eastern Ave, Baltimore, MD 21224), (June 2017 – September 2017)

- Recreational Activities Assistant

**Cultural Academy for Excellence** (2705 Queens Chapel Rd, Mt Rainier, MD 20712), (January 2019 – May 2019)

- Tutoring elementary school kids attending Prince George County Public School

**Wings Things N More** (3007 E Joppa Road, Parkville MD, 21234) (June 2015 – Present)

- Closing Assistant Manager and Cashier

**Amazon Warehouse** (5300 Nottingham Dr, Nottingham, MD 21236) (December 2020 – August 2021)

- Warehouse Team Member in Sort Center

**Flynn O'Hara Uniforms** (8868 Waltham Woods Rd, Parkville, MD 21234) (June 2018 – August 2019)

- Main Embroiderer and Cashier

### Awards:

- Sean and Sarah Durbin Scholarship (Spring 2021)
- Dean's List for Outstanding Students (Fall 2018, Spring 2019/2021)
- Office of Multi-ethnic Student Education Academic Excellence Award (Fall 2018, Spring 2019)
- Lushbaugh Endowed Scholarship Award Recipient (Fall 2019, Spring 2020)
- Adele H. Stamp Memorial Award (Fall 2018, Spring 2019)
- AP Scholar with Distinction (June 2018)

### Clubs and Organizations:

- AMSE (American Society of Mechanical Engineers)
- Robotics Club (VEX Robotics Competition): Design Team Lead
- NSA (Nepalese Student Association): Treasurer
- NSAF (Nepalese Student Association Football Club)
- CEC United (Local Baltimore Soccer Club): Treasurer and Player