Nikesh Shrestha, B.S.M.E.

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Objective

Associate Engineer at Northrop Grumman Corporation and a bachelor's degree in mechanical engineering from the University of Maryland – College Park. Received multiple awards for academic excellence. Background in Equipment Engineering, Systems Integration, Micro-Electronics Semiconductor Devices, Design of electro-mechanical and autonomous systems. Looking to pursue higher education in Robotics and Controls for professional development and gain a competitive advantage.

Education

B.S. Mechanical Engineering   University of Maryland, College Park, MD   (Aug. 2018 – Dec. 2021)

Skills

- **PROGRAMMING:** MATLAB, C++, Python, HTML5, Simulink, LabView
- **TECHNICAL SKILLS:** DMFA, Lean Manufacturing, Six Sigma, GD&T (ASME Y14.5), Human Factor Analysis
- **SOFTWARE:** SolidWorks, Autodesk Inventor, Fusion 360, Ansys Workbench (FEA), Microsoft Office
- **MACHINING:** 3D Printing, Bandsaw, Lathe, Solder, CNC
- **LANGUAGES:** Fluent in English & Nepali, Conversant in French & Hindi

Work Experience

Northrop Grumman Corporation   (May 2022 – Present)
Associate Electronics Engineer Pathways Program

- Installation Equipment Engineer for fabrication of Micro-Electronic Devices and Semiconductor Technologies, and Facility Continuous Improvement Projects member.
- Project Manager and Engineer responsible for installation of new equipment within Class 100 Level Cleanrooms while complying with Environmental Health and Safety factors, NFPA and OSHA protocol, and maintaining the controlled cleanroom environment.
- Generating protocols for safely and cautiously using toxic and hazardous chemicals on the equipment for the operators.

NJIT Advanced Energy Systems & Microdevices Laboratory   (Jun. 2021 – Aug. 2021)
Research Assistant (NSF REU Fellowship)

- Researched the implementation of surface tensions in a *microchannel* for *passive plasma separation*, and investigated the *visualization and characterization* of fluid drop on a surface treated PDMS material
- Successfully developed a *MATLAB algorithm* for *autonomous detection and measurement* of contact angles from images to increase *research efficiency* by *reducing time and errors* associated with manual measurement

Technical Experience

Project: Redesigning Braking System for Triathlon Bikes   (Sep. 2021 – Dec. 2021)
Team Leader and Team Scribe

- *Increased safety* of triathletes while braking in aero position by *designing a hydraulic braking system* inside aerobars and utilizing engineering principles: *Product and Process Design & Lean Manufacturing*
- Utilized *MATLAB*, *SolidWorks*, *Stack-up*, *GD&T, additive and subtractive manufacturing* machines for design, analysis, simulation, and assembly
- Supervised *project timeline, prioritized workload* and ensured *quality of product* to *maximize customer satisfaction*

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

- Coded Supervised Probabilistic Model (Variational Sparse Gaussian Processes) using Python3 libraries (PyTorch, Scikit-learn, PyMC3) to forecast the 6D location and orientation of a Navy Battleship on *Jupyter Notebook IDE*
- Achieved *91% testing accuracy* average for 6-degrees within a *95% confidence bound* with the *model run time of less than 30 minutes for 20,000 data points* for each dimension

Project: Autonomous Robot   (Jan. 2021 – May 2021)

- Fabricated a robot that autonomously detects and follows the operator at various speeds by programming *Arduino Uno microcontroller, PIR and Ultrasonic sensors*, and *actuators (DC and Servo Motors)*
- *Networked data* from *Arduino IDE* to *Processing 3* for *visual demonstration*