

# Manik Singh Sethi

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## EDUCATION

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**Olin College of Engineering** Needham, MA  
Bachelor of Science in Mechanical Engineering  
Recipient of 4 year, 50% tuition scholarship

May 2018

## EXPERIENCE

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**TE Connectivity (Kilovac)** - Aero, Defense, Marine R&D Engineer Carpinteria, CA 2018-Present

- Draft drawings and work instructions for new product parts and assemblies, largely using Creo
- Bring new product designs to mass production phase working with international manufacturing facilities
- Lead for sourcing parts manufactured both in-house and externally & for CAM projects using Fusion360
- Perform FMEA on failed products, assemble prototype units, and identify changes for cost/time reduction
- Brainstormed, prototyped, and manufactured Shape Memory Alloy actuator prototype (patent awarded) as part of a 5 person team over the course of a year

**Uber Advanced Technologies Group** - Hardware Intern Pittsburgh, PA Summer 2017

- Designed and conducted qualification testing on fluidic and pneumatic camera cleaning prototype
- Provided summaries and suggestions instrumental to converging on final design
- Utilized SolidWorks, Arduino, and Python to design and construct set-up and extensively worked to troubleshoot electrical system for legacy controls circuit

**Los Alamos National Laboratory** - Research Fellow Los Alamos, NM Summer 2016

- Collaboratively created model for predicting damage in qualification testing across simulated and real testing environments
- Derived analytical model to parametrize severity in a cumulative damage model
- Employed MATLAB, LabVIEW, and Abaqus for signal processing, data collection, and validation

**Olin College of Engineering** - Researcher Needham, MA Summer 2015

- Collaboratively designed and tested landing gear for UAVs to perch on unknown/irregular geometries
- Led design of compliant, soft robotic, under-actuated grippers, requiring no external power source
- Included MATLAB & SolidWorks modeling, 3D printing, and analytical optimization of model geometry

**Olin Baja (SAE Baja)** 2014 - 2018

- Led team of ~30 students as PM ('17-'18) to successfully design, fabricate, and race off-road racing vehicle
- As drivetrain lead ('15-'17), led subteam to design, fabricate, assemble, repair, and service drivetrain system consisting of custom fixed-reduction gearbox and tunable CVT primarily using SolidWorks

## PUBLISHED WORKS

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**Patent - Power Switch Device with Shape Memory Alloy Actuator** 2018  
Priest, Marcus; **Sethi, Manik**; Haag, Gordon; Klein, Giulia; Xu, Xiaozheng; Shroff, Suraj. Power Switch Device with Shape Memory Alloy Actuator. Patent US10607798B2. 11 Mar. 2020.

**Publication through Society of Experimental Mechanics** 2017  
Prisbrey M., Senecal J., **Sethi M.**, Haynes C., Taylor S. "Equating Severity in Qualification Testing." Shock Vibration, Aircraft/Aerospace, Energy Harvesting, Acoustics & Optics, Volume 9 Conference Proceedings of the Society for Experimental Mechanics Series, Apr. 2017, pp. 325-330., doi:10.1007/978-3-319-54735-0\_34.

**Publication through SPIE** 2016  
Tieu M., Michael D., Pflueger J., **Sethi M.**, Shimazu K., Anthony T., Lee C. "Demonstrations of Bio-Inspired Perching Landing Gear for UAVs." Proc. SPIE 9797, Bioinspiration, Biomimetics, and Bioreplication 2016, Apr. 2016, doi:10.1117/12.2218167.

## SKILLS

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Software: SolidWorks, Creo, Fusion360, ANSYS, Minitab, MATLAB, Python, Arduino  
Hardware: CNC Mill, Mill, Lathe, Laser Cutter, 3D Printer, MIG Welding  
Languages: Hindi(Native Fluency), Punjabi(Native Fluency), French(Limited Proficiency)