

Education

Cornell University - GPA-3.85/4

Master of Engineering in Systems Engineering (Specialization in Product Management and Product Development)

Expected Dec 2017

Graduate courses: *Innovative Product Design, Machine Learning, Human Robot Interaction (HRI), Six Sigma for the Design and Operation of Reliable Systems, Model Based Systems Eng., Design thinking, Systems Analysis Behavior and Optimization, Intelligent sensor planning and neural networks.*

MBA courses: *Supply Chain Management (6 level), Project Management, Strategic management of Technology & Innovation, Business Analytics Processes and Enterprising System, Consumer Product Design for Entrepreneurship.*

Navrachana University - GPA-3.96/4, Class Rank: 3/70.

Bachelor of Science in Mechanical Engineering

May 2016

Elective courses: *Robotics, Mechatronics, Systems control, Kinematic & dynamics, Manufacturing 1 & 2, Comp integrated mfg., Supply chain, industrial & Ops research.*

Software Skills

Autodesk Fusion 360, Python, C, C++, Arduino, ERP(SAP), JMP, Advanced Excel, Monte Carlo Simulation, Discrete Event Simulation, SYSML, CNC codes.

Professional Experience

➤ Transcend Robotics

Silicon Valley, CA

New Product Development Intern

June 2017 - August 2017

- **Home Robot:** My project included conceptualization, use case selection, design ideation, product design, project management timeline creation, BOM for prototyping, go to market strategy, customer value proposition and market potential for the company's future product for home robotics market segment.
- **Level Head:** I entirely owned level Head project from: Idea generation – Designing – Prototyping – Manufacturing - Supply chain - Business strategy - Market valuation, complete product life cycle. It is a most economical single axis self-balancing platform for the ZED stereo cameras and payloads.
- **Provisional patent:** I invented a gear mechanism for Independent Bi-directional Variable Speed Multiple Wheel Control with One Motor for Mobile Robots.

➤ Organics Robotics Lab (ORL)

Cornell University, Ithaca, NY

Graduate Researcher

August 2016- May 2017

- Pursued a research under **Professor Robert Shepherd** to develop an **Intelligent Tendon Driven Soft Robotic Hand** which can sense, touch, feel and measure force from different objects like a human hand. Undisclosed project till the time of publication.
- It has applications in Robotics, Exo-skeleton and Prosthetics.
- I used Autodesk CAD-Fusion-360, time of flight sensors, wave guides, optics, silicon rubbers, Arduino, motors, 3-D printers, lithography to develop the robotic hand.

Patents and Entrepreneurial Experience

➤ Patent - Automatic Weight Changing Exercise Machine with Feedback Control

August 2016 - Current

- **Features:** First exercise machine that can automatically change weight, increment weights in small steps, providing user weight lifting capability, digital interface.
- **Product Design tools:** Use Case Behavioral Dia., Customer Affinity Process, Analytical Hierarchy Diagram, QFD (House of Quality), Fusion 360 etc.
- **Electronics & Mfg.:** Elastics, sensors, feedback control loop, motor, drivers, Arduino, pulleys, springs, 3D printing and other manufacturing techniques
- **Business tools:** Business model canvas, Bass model forecasting, Target market, Net value worth, Go to market strategy, Competitor Analysis etc.
- Submitted a Provisional Patent Application

➤ Research - Autonomous Braking and Emergency Alert System for Two-wheelers

August 2015 - May 2016

- **Features:** Designed and manufactured first three component compact and lightweight autonomous mechanical brake that can generate 20 bars of pressure.
- **Design, Analysis and Validation:** CREO, ANSYS, Von Mises Analysis, C++, Picasa
- **Manufacturing:** Milling, Drilling, Lathe, CNC machines, Water jet, Grinding, Wire cut EDM, Facing, Blue print finishing.
- **Logic, Algorithm, Simulation & Electronics:** MATLAB-SIMULINK, Arduino, Monte Carlo Simulation, Siemens Simulation Software

Business projects

➤ AMAZON: Supply Chain for Drone Delivery System

January 2017 - May 2017

- Completed a Supply Chain research on Drone Delivery system –AMAZON. The research findings were:
 - **Supply chain strategy & design:** Prepared target market, Drone distribution center location, demand and supply uncertainty matrix, Regulations, Technical Specs.
 - **Cost benefit analysis:** No. of deliveries by drone vs Courier, Drone fleet size optimization (Discrete Event Simulation), Profit and Revenue, drone deployment etc.
- Interviewed- *Nick De Angelis, Amazon Senior Manager.*

➤ Simulation, Modelling, Analysis and Optimization for Air Transportation in USA

February 2016 - May 2016

- This project focused on different aspects of air transportation for 50,000 planes each day. The first part we built a **discrete-event simulation model** to assess the implications of different air traffic control policies. In the second part, we carried out a **reliability analysis** for the aircraft landing process. The third part we built an **optimization model** for cargo transportation.

Achievements

- **Graduate Teaching Specialist (GTS) Award** for the class instructor under **Dr. David Schneider, Director of Systems Engineering Dept., Cornell University**
- **"Six Sigma- Black Belt Certificate"** in 2016.
- Received a certificate of excellence for **HIGHEST CGPA in JUNIOR YEAR (HIGH PERFORMANCE AWARD)**.