HARI KRISHNAN

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EDUCATION

University of California Los Angeles (UCLA) — Los Angeles | June 2017
Master of Science – Mechanical Engineering — **GPA - 3.86/4**

National Institute of Technology Karnataka (NITK) — Surathkal | 2015
Bachelor of Technology – Mechanical Engineering — **GPA - 4/4**

SKILLS

CAD/DESIGN – CREO, SOLIDWORKS, SPACECLAIM, Surfacing.
ANALYSIS – ANSYS WB, COMSOL, Moldflow.
PROGRAMMING – MATLAB, LabVIEW.
OTHERS – PTC Windchill, GD&T, 3D Printing, DOE.

AREAS OF INTEREST – Mechanical design and analysis, Prototyping, Robotics, Process Design, Automation.
COURSEWORK – Compliant Mechanism Design, Rapid Prototyping, Robotics, Linear Dynamic Systems, FEM, Design – High Temperature, Analysis of Structures, Mechanism Design

RELEVANT EXPERIENCE

iROBOT, California — June 2016 – Dec 2016
Mechanical Intern | Design and Prototyping

- Design and rapid prototyping (FDM) of components for a new mobile robot in development using CREO and SOLIDWORKS.
- Optimized robot shell design to improve mobility and developed fixtures, significantly reducing prototype build times and improving build quality.
- Developed multiple test metrics for standardizing robot performance and assembled over 20 robot prototypes.
- Implemented skeleton based modeling techniques and managed product data using PTC Windchill.

RoMeLa - Robotics and Mechanisms Laboratory, UCLA — Oct 2015 – present
Graduate Student Researcher | Design and Analysis

- Designed and built a modular wall bracing Hexapod Robot with emphasis on design for manufacturability (DFM).
- Manufacturing parts for robots using 3D printing (FDM) and 3-axis CNC machining.
- Redesigned (surfacing) and built the outer head of the UCLA LUSKIN concierge robot (LARA), reducing the weight by half and improving strength against drops.
- Optimized and redesigned robotic components based on FEA for improved strength using ANSYS and SOLIDWORKS.

TATA Centre for Technology and Design - IIT Bombay, India — Summer 2015
Research Intern | Medical Product Design and Prototyping

- Designed and implemented the prototype of an affordable, portable and robust Digital Microscopic Device for scanning cancerous cells at the source point.
- Developed system controls using Arduino, Linux CNC and worked with Open CV (python) to manipulate and stitch together captured images.

Tampere University of Technology, Tampere, Finland — Summer 2014
Research Intern | Product Design and Prototyping

- Designed and fabricated the TUT Microfactory prototype (miniaturized production system), incorporating HEPA filters, fans for air flow, achieving overall control and significantly reducing cost using an Arduino Microcontroller.
- Designed and fabricated enclosures, heat sinks and other major components using CATIA and implemented PID control to maintain the temperature, humidity and airflow within the work chamber.

Department of Atomic Energy (BARC), Mumbai, India — Summer 2013
Research Intern | Manipulator Analysis and Robotic System Design

- Developed MATLAB simulations to quantify the error involved in motion transmission from the master to the slave side
- Analyzed manipulator kinematics and suggested design improvements to reduce position error.
- Developed designs of cleaning bots and mechanisms used for expired radioactive glove boxes at the robotics department.

PROJECTS

Multiphysics Analysis of Automobile Disc Brakes — March – June 2016
High-Temperature Mechanical Design (University of California Los Angeles)

- Modeled and simulated the mechanical and thermal effects on an automobile disc brake during braking using COMSOL.
- Optimized vane profiles for maximum cooling using Solidworks design study and co-simulation using COMSOL.

Flexure Based Micro Mirror Design — Jan – March 2016
Compliant Mechanism (University of California Los Angeles)

- Designed a Flexure based Micro Mirror System - driven at resonant frequencies for precision applications using Solidworks.
- Performed FEA and frequency optimization using ANSYS and optimized designs for MEMS fabrication capabilities.

LEADERSHIP EXPERIENCE

Founding Member and Secretary - Graduate Indian Student Association (UCLA) — March 2016 - present
Graduate Teaching Assistant - Nanoscience and Technology (UCLA) — Jan - March 2017
Coordinator – The Ooperai Foundation (social outreach philanthropy) — 2014 - 2016