

PRADIP KRISHNAA MURUGAN

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EDUCATION

Purdue University

Master of Science in Mechanical Engineering

Jun 2020 – May 2022

GPA: 4.00

Purdue University

Bachelor of Science in Mechanical Engineering; Minor in Economics

Aug 2016 – May 2020

GPA: 3.61

EXPERIENCE

Research Fellow, Purdue University (West Lafayette, USA)

Jan 2020 – Present

- Collaborated with the Faculty of Mechanical Engineering to design and develop a modular river current energy turbine for the US Department of Energy
- Chaired the design team through prototyping, technical development, DFM, and DFA phases
- Analyzed and implemented topology optimization to reduce system weight by 20% with composites
- Advanced front-end design efficiency with the parameterization of assembly process on Siemens NX
- Improved shaft bending performance with iterative design feedback from FEA applications leading to 3" reduction in bending displacement
- Projected to increase energy output efficiency from 55% to 82% of the theoretical Betz' limit

Research Assistant, Leibniz University (Hannover, Germany)

Apr 2019 – Aug 2019

- Topic: Development of an Interferometric Measuring System for Surface Measurement of Optical Components
- Designed and developed a prototype Fizeau Interferometer capable of nanometer resolution
- Reduced total cost of the system by \$2500 and added customizable components to accommodate lenses of varying focal lengths

Product Development Intern, Kautex Textron (Bonn, Germany)

Jan 2019 – Apr 2019

- Directed experiments to improve tank refueling quality by 15% for diesel exhaust fluid tanks
- Implemented a novel heating solution to improve performance of SCR tanks in low temperatures
- Managed and communicated engineering and customer requirements with BMW and VW for SCR tanks with Product Lifecycle Management (PLM)

Manufacturing Engineering Intern, Rane Automobiles (India)

Jun 2018 – Aug 2018

- Coordinated and executed work orders at the R&D Testing Facility for the development of improved manual steering gear assemblies for clients including Tata Motors, Renault, and Ford India
- Reduced downtime by 10% at five manufacturing lines with the application of Kaizen principles

PROJECTS

Autonomous Lane Following Robot

- Developed an autonomous lane-following robot capable of detecting turns and obstacles
- Analyzed vehicle dynamics to develop PID controllers for the motors to achieve smooth motion
- Designed self-localization systems using IR sensor data processed with LabView

SKILLS

CAD: Siemens NX (Unigraphics), SolidWorks, CATIA V5, AutoCAD Inventor

Product Design Tools: Design for Manufacturing (DFM), Design for Assembly (DFA), CFD, FEA, GD&T

Simulation & Product Management: MATLAB, LabView, Siemens Teamcenter, Enovia PLM

Programming Languages: Python, C++

Languages: German, English, Tamil, Kannada, French, Arabic

HONORS AND AWARDS

Purdue Graduate Research Assistantship

Jan 2020 – Present

Gordon and Joanna Hall Memorial Scholarship

Aug 2018 – May 2020

Dean's List & Semester Honors

Dec 2016 – May 2020

Semester Abroad Intercultural Learning Scholarship

Jan 2019 – Aug 2019