Rahul Shagrithaya

Mechanical and Manufacturing Engineering Co-op Student

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HIGHLIGHTS OF QUALIFICATIONS

- Currently enrolled in level 1 of the Masters in Manufacturing Engineering program and eligible and available for a 12-month Co-op position starting September 2022
- Experience in project management, technical report writing, programming, designing, modelling, and drafting while working in a dynamic technical and engineering environment
- Exceptional teamwork, leadership, interpersonal, and organizational skills demonstrated as Structures Sub-team Engineer in the Society of Automotive Engineers (SAE) student research project team
- Coursework in Computer Aided Designing and Machining (CAD-CAM), Production Planning and Control, Operations and Systems Management, Plant Layout and Material Handling, Practical Project Management

EDUCATION

Master of Engineering, Manufacturing Engineering **January 2022 - Expected graduation April 2023**
McMaster University, Hamilton ON

- Emphasis on Manufacturing Automation and Industry 4.0
- Cumulative grade-point average of 12.0 on a 12.0 scale
- Relevant courses: Practical Project Management, Rapid Prototyping, Artificial Intelligence (AI) and Machine Learning (ML)

Bachelor of Technology, Mechanical Engineering, Minor in Business Management **Graduated July 2021**
Manipal Institute of Technology, Manipal, India

- Cumulative grade-point average of 8.30 on a 10.0 scale
- Relevant courses: Computer Aided Designing and Machining (CAD-CAM), Production Planning and Control, Plant Layout and Material Handling, Operations and Systems Management, Work Systems Engineering

RELEVANT EXPERIENCE

Research and Development Intern **August 2019 – December 2019**
Curiouz TechLabs, Manipal Institute of Technology − Manipal, India

- Partnered with 4 doctors and a professor to design tumour-removal Endoscopic scissors to improve the diagnosis of small visible tumours in bladders
- Collected and researched details of 2 available endoscopic scissors to implement an updated, improved, and safer design
- Designed and assembled more than 15 CAD Models in Siemens NX and rendered images, videos, and illustrations in KeyShot that were used for documentation, diagrams, and presentation
- Participated in monthly meetings with the doctors to communicate updates and discuss possible technical solutions to meet the requirements of the project
- Patent published June 17, 2021, “A scissors-needle system for intra-cavitary hydro-dissection and excision of tissues,” WO/2021/116776

Research and Development Intern **June 2019**
MLBE Laboratory, Cracow University of Technology − Krakow, Poland

- Assisted in the development of environmentally friendly and sustainable systems to minimize the use of renewable energy consumption
- Designed a 600mm diameter heat exchanger in Fusion360 that could heat water using hot kitchen air by 10°C and analyzed the heat and fluid flow in Ansys Fluent
- Gained an understanding of the emerging technical, economic, social, and environmental developments of sustainable living

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SKILLS

Software: AutoCAD, Fusion 360, Siemens NX, CATIA, Ansys Mechanical, Ansys Fluent, Microsoft Excel
Programming: Python (SQLite, Dear PyGui, NumPy, PyAutoGui), C++
Languages: English, Hindi

RELEVANT PROJECTS

Reddit Subreddit Data Analyses **May 2021 – June 2021**

- Extracted data from all posts made in the last 24 months from 3 mental health related subreddits to collect approximately 1 million timestamps using Reddit API on Python
- Analyzed and plotted the data on radar and linear charts to conclude that most posts are made on Monday between 2000 EST – 2200 EST and least posts on Friday between 0500 EST – 0700 EST

Finite Element Method (FEM) solver and assembly line balancer software **January 2021 – April 2021**

- Programmed 3 algorithms to automate FEM problems in beams and trusses, and production assembly line balancing problems to minimize bottlenecks and increase production
- Developed Graphical User Interfaces (GUIs) and SQLite database using Python to receive the problem data from the user and showcase the results in a user-friendly format like graphs and tables

Micro-class Unmanned Aerial Vehicle (UAV) **April 2018 – November 2019**

- Collaborated with a multidisciplinary team of 38 to research high payload carrying capacity and high strength to weight ratio but cost-efficient UAV designs
- Conceptualized and manufactured 9 designs and conducted 117 flying tests to develop a 550g, 1.2m wingspan fixed-wing aircraft that can be assembled in less than 90 seconds and carry 1500g of payload
- Maintained an accurate Excel Sheet record of inventory of raw material, UAV designs modelled on Fusion360, and drafted drawings of aircraft parts in AutoCAD that were sent for laser-cutting
- Finished 5th against 20 teams in the Society of Automotive Engineers (SAE) Aero Design East 2019 Collegiate Design Series hosted by Lockheed Martin in the micro-class category in Texas, USA

OTHER EXPERIENCE

Fast Food Worker **January 2022 - Present**

Subway – Hamilton, ON

- Handle nearly 50+ customers every shift at peak hours and prepare bread, vegetables, and meat
- Manage the cash registry, maintain food inventory, and keep the store clean while ensuring all customers' orders are being prepared accurately and served quickly in a fast-paced environment

EXTRACURRICULAR ACTIVITIES

Senior subsystem member – SAE Student Project Team **May 2019 – November 2019**

- Interviewed, selected, and supervised engineering undergraduate students and chose 20 competent members for the team out of 75 interested students
- Trained, supported, and oversaw 6 students in the structures sub-team working on designing and manufacturing unmanned aircraft components

Photographer – Cultural and Sports Fest **March 2019**

- Photographed and post-processed over 100 photos of 4 events which were used in social media and advertisements for the festival