

Ryan C. Mark

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Please see my Portfolio for detailed robotics experiences

Portfolio: <https://ryancmark.wixsite.com/portfolio>

SKILLS

- SOLIDWORKS and AutoCAD
- ANSYS (Finite Element Analysis)
- Hands-On Manufacturing
- C, Java, and MATLAB coding proficiency
- Team and Project Management
- Excellent Communication with Team and Customers
- Individual Decision Making
- Optimistic Attitude

ENGINEERING INTERNSHIP (PEY)

Kidd Operations (Glencore Canada)

September 2020 – August 2021

Mechanical Engineering Co-op

- Member of the Mechanical Engineering Department at the world's deepest base-metal mine below sea level
- Design mechanical and structural components for use on-site by miners
- Model designs in SOLIDWORKS, use FEA stress and displacement simulation to evaluate design feasibility
- Produce professional engineering drawings in AutoCAD for fabrication of designs, and on-site installation
- Meet all engineering codes and standards in design work
- Participate in mechanical audits and inspections, both underground and on surface
- Complete progress claims by tracking project finances, and communicate with Contractors
- Follow and promote safety requirements and EHS culture

ENGINEERING EXPERIENCE

RSX: Robotics for Space Exploration

September 2017 – Present

Mechanical Lead

(May 2019 – August 2021)

- Guide an eight-person sub-team to design, construct and integrate mechanical systems for a Mars Rover
- Cooperate with Electrical, Software, Communication, Science and Marketing/Outreach sub-teams to complete the Mars Rover for international competitions
- Competitions simulate Mars Missions such as exploration, soil sample collection, astronaut search and rescue, and equipment servicing
- Experienced in design work, modelling in SOLIDWORKS & AutoCAD, ANSYS analysis, rover construction, team and project management, mentoring new members, contacting companies for quotes and services, submitting SOLIDWORKS drawings, procuring parts, and budgeting
- Manufacturing experience with a lathe, mill, drill press, injection molding, 3D printing, carbon fiber layups, and soldering
- For the latest Mars Rover, designed a new carbon fiber rocker-bogie system, including custom gearboxes
- Previous design work includes custom polyurethane tires with tread geometry, a battery bay, camera mount, chassis lid, and various parts for the Mars Rover's 6 DOF robotic arm
- Volunteer during SEEK & SEEK Jr.; design competitions hosted by RSX to promote STEM interest among Undergraduate and High School students

University of Toronto Robotics Association Sumo Club

September 2017 – April 2018

1st Place Team

- Constructed a small sumo robot as part of a three-person team
- Designed the mechanical component of the robot using AutoCAD

OTHER WORK EXPERIENCE

Kilkenny Irish Pub

May 2019 - August 2019

Bar Assistant

- Experienced in a high volume, high pace workplace that requires constant quick decision making
- Balanced numerous tasks while evaluating their priority, based on changing/unexpected operating demands
- Excellent communication used to satisfy customer needs, and to cooperate with team of coworkers

Acosta Mosaic

July 2017 & July 2018

Brand Ambassador

- Built positive customer experience through strong and upbeat communication
- Assisted customers in a photo booth to customize their own Heinz bottle during the 2018 Calgary Stampede
- Distributed promotional items to demonstrate BMO's appreciation for customers during the 2017 Calgary Stampede

EXTRACURRICULAR

Skule Dance Club

September 2017 – April 2020

Secretary and Elected Executive

(April 2019 – April 2020)

Assistant Treasurer and Elected Executive

(April 2018 – April 2019)

- Communicated with university administration and other student clubs to collaborate/organize events
- Communicated with club members about class scheduling and concerns
- Sought outreach opportunities, and book rooms for classes
- As the Assistant Treasurer for the previous year, set and balanced the budget
- Performed in many university and local community events, and taught beginner level classes

Track One Mentorship

September 2018 – April 2019

Mentor

- Mentored five first year engineering students as they transitioned from high school into university, and as they selected engineering disciplines for second year
- Provided support and resources, answered questions and passed advice for course work and university life

EDUCATION

University of Toronto:

September 2017 – Present

- BASc Mechanical Engineering + Certificate in Music Technology
- Certified SOLIDWORKS Associate
- Basic Machining Certificate from George Brown College of Applied Arts and Technology

SCHOLARSHIPS

2018 University of Toronto's Engineering Alumni Association's Stewart Wilson Award

2017 General Electric's GE Star Award – North America

AWARDS & ACHIEVEMENTS

25th Place at the 2019 European Rover Challenge

11th Place at the 2019 Canadian International Rover Challenge

3rd Place at the 2018 European Rover Challenge

11th Place at the 2018 University Rover Challenge

2018 University of Toronto Robotics Association Sumo Club Champions

2017 Vex Robotics Competition Amaze Award & 2017 Vex Robotics Competition Mixed Team Award

2015 FIRST Robotics Competition Western Canada Regional Winners

2015 FIRST Robotics Quality Award Sponsored by Motorola Solutions Foundation

Qualified and competed at the 2015 FIRST International Robotics Competition in St. Louis, MO

City and Provincial Wrestling Champion during High School

Wrestled at the Provincial, National (Team Alberta) and International Level (Team Canada in Japan)