

# Janushan Sivakrishna

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## EDUCATION

### Toronto Metropolitan University

Sept. 2023 – Apr. 2028

Toronto, ON

Bachelor's of Engineering – Mechanical Engineering

- Hands-on experience in Solid Mechanics Labs, Materials Science Labs, Fluid Mechanics Labs
- Relevant Courses: Solid Mechanics I, Mechanical Design I, Applied Thermodynamics, Fluid Mechanics

## TECHNICAL SKILLS

**3-D CAD Tools:** SolidWorks, AutoCAD, Fusion 360

**Programming & Analysis:** MATLAB, Python, C/C++

**Manufacturing Knowledge:** Engineering Drawings, CNC Machining, 3-D Printing

**Other Skills:** Microsoft 365 (Excel, Word), Problem Solving, Technical Communication, Leadership, Teamwork

## EXPERIENCE

### Mechanical Design Intern

Mar. 2025 – May 2025

Toronto, ON

CPM Tools Industries Inc.

- Optimized three self-adjusting and ratchet mechanisms, improving tool efficiency by 10% through refined mechanical design.
- Produced detailed technical drawings and comprehensive BOM in SolidWorks, ensuring full manufacturing accuracy and material traceability.
- Conducted competitive analysis of four market competitors and developed a 5-page market expansion report, identifying three new product opportunities.

### Competitions Coordinator

May 2024 – Present

Toronto, ON

Metropolitan Engineering Competition

- Planned and organized a hydraulic lift bridge design competition for over 80 undergraduate students, overseeing logistics, materials, and event flow.
- Created precise competition abstracts, rulebook, and assessment rubrics to ensure clear objectives and fair scoring aligned with OEC guidelines.
- Delivered the competition presentation to an audience of judges, industry professionals, and fellow competitors, effectively conveying design goals and event outcomes with confidence and clarity.

### Automotive Service Technician

Jul. 2022 – Dec. 2022

Toronto, ON

Pennzoil

- Performed over 50 oil changes and inspections, using Droptop software for documentation and tracking.
- Assisted in tire changes and lubrication services to ensure safety and reliability.
- Organized and streamlined inventory of service products coming in and respective tools improving SFM.

## PROJECTS

### Rankine Cycle Plant Design

Oct. 2025 – Dec. 2025

- Designed an 80 MWe / 25 MWth natural gas Rankine cycle plant to provide power and district heating for remote Canadian communities.
- Optimized thermal efficiency through 3 design iterations featuring a 4-stage turbine setup with reheat and regenerative cycles.
- Engineered a hybrid feedwater system and 0.08 bar condenser to recover 125°C waste heat for localized heating infrastructure.
- Validated thermodynamic performance and methane fuel cost feasibility using MATLAB simulations integrated with the XSteam library.

### Ball Transport Mechanism

Mar. 2025 – Apr. 2025

- Sketched 3-D models, assemblies in SolidWorks, and fabricated components with CNC machining.
- Created a four-bar linkage claw mechanism for torque reduction and improved motion efficiency.
- Designed 2-D parts for laser cutting, preparing .dxf files with precision fitting considerations.

### QuickHome

Sept. 2024 – Dec. 2024

- Developed a design brief for a portable shelter emphasizing safety, adaptability, and sustainability.
- Integrated team contributions into a SolidWorks CAD model, applying persona-driven design criteria.