

# AAKARSHAK DASS

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[Website Portfolio](#) • [Youtube Channel](#) • [LinkedIn Profile](#)

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## SUMMARY

- Highly proficient in using softwares like CATIA V5, SolidWorks, AutoCAD Mechanical, SolidEdge, and MATLAB, MS Office.
- Effectively able to design CAD Models using GD&T and create Bill of Material (BOM).
- Acquired a detailed knowledge for the working of Ansys, and the principles & laws of CFD and FEA Analyses, which helped me to publish 2 research papers.
- Gained in-depth knowledge for HMI and PLC (Allen Bradley, Siemens, Omron) for maintenance and troubleshooting.
- Designed and built 3 post secondary projects with the help of Python, Blender, and Arduino.
- Skillful in machining techniques such as, lathe, milling, drilling and surface grinding.
- Capability to use ABB Robotstudio and Fanuc Roboguide; and do machine learning using libraries such as Pandas, NumPy, Matplotlib.

## SKILLS

AutoCAD Electrical • Soldering • HTML & CSS • SQL • OpenCV • Blender • Arduino

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## EDUCATION

### Centennial College, Canada

January 2023 - April 2024

Post Graduate Diploma (Electromechanical Engineering Technology - Robotics and Automation)

Courses Included:

- Electronics Devices and Digital Electronics
- Fluid Power
- Robotic Devices
- PLC/Pneumatic Systems
- Fluid Mechanics and Dynamics
- Electro-hydraulic Systems
- Feedback Control
- Industrial Production Applications

### Guru Gobind Singh Indrapastha University

August 2017 - June 2021

Bachelor of Technology (Mechanical Engineering)

Courses Included:

- Electrical Technology
  - Electronic Devices
  - Strength of Material
  - Kinematics of Machines
  - Refrigeration & Air Conditioning
  - Engineering System Modelling & Simulation
  - Thermal Science & Thermodynamics
  - I.C. Engine & Gas Turbine
  - Fluid Mechanics & Fluid Systems
  - Metal Cutting and Tool Design
  - Metrology
  - Robotics
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## WORK EXPERIENCE

Student Researcher

April 2023 - June 2023

Centennial College (Contract Base - 3 months)

- Worked with a research team for designing hydrogen refueling station.
- Designed multiple parts of station such as refueling nozzle, check valve, safety valve, breakaway.
- Softwares used for designing and rendering the components were Catia V5, SolidWorks, and Blender.
- Modelled according to the Canadian standards (ANSI / CSA) for each components of refueling station.
- Presented the updates and timely completion of the project deadlines to cross-functional teams.
- Provided an end-of-project report that covered the outcomes, scopes, recommendations regarding the project.

P.K. Panchal - Machine Tools | Delhi, IN

June 2019 - July 2019

- Gained experience in using **milling machine**, **grinding machine**, **drilling machine**, and **lathe machine**.
- Assisted in manufacturing the guide plates for bar cutting and bar bending machines.

- Acquired knowledge of **hobbing machine** to manufacture different types of gears such as, **helical gear**, **spur gear**, and **worm gear**.
  - Contributed in designing gears using **proper calculations** for gears and applying these calculations for manufacture them.
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## POST SECONDARY PROJECTS

**Programmer**, Wheelchair mounted Robotic Arm

January 2021 - April 2021

Guru Gobind Singh Indraprastha University, Delhi, IN

- Collaborated with a team of 6 members for designing the robotic arms installed on the wheelchair.
- Designed and analyzed using Catia V5, Solidworks, and Fusion 360.
- Programmed and wired Arduino Uno by using the Arduino software in C++ programming language.
- Presented the result, outcomes, faults and future possibilities regarding the project.

**Mechanical Designer**, Remote Control Vehicle

September 2023 - December 2023

Centennial College, Toronto, ON

- Exhibited problem solving and teamwork skills by coordinating with a team of 4 members to develop a wireless remote controlled vehicle, by completing a 100-meter course within 34.1 second.
- Conducted dynamic analyses (force to go over ramp, speed, gripping force) to improve the performance of the vehicle.
- Developed and designed with the help of AutoCAD, SolidWorks, and Catia V5 to finalize the construction.
- Presented the objective, results, and technical elements in an in-class presentation to the students and professors.

**Project Member**, 2D Pen Plotter

January 2024 - April 2024

Centennial College, Toronto, ON

- Developed a strong troubleshooting and teamwork skills in detecting the errors and inaccuracy in the wiring.
- Skillfully designed the wiring diagram using AutoCAD software and programmed Arduino so that it will be compatible with Arduino CNC Module.
- Wriiten a report and created a powerpoint presentation using MS Powerpoint, demonstrating the recommendations, problems, and observations during the process of manufacturing the project,

**Project Member**, HMI Diagnostics Project

March 2024 - April 2024

Centennial College, Toronto, ON

- Complete a particular sequence using HMI display and programmed in **Omron (CX-Programmer)**.
  - Designed 5 different screens each for various operations, such as operation, maintenance, production, and errors.
  - Programmed two signals light which would indication if there is an error or not and if the station is running or not.
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## RESEARCH PAPER

**Design and Analysis of Wheelchair-mounted Mechanical Arm using CATIA V5**

[Published Online](#) | [PDF](#)

International Journal For Technological Research In Engineering

Volume 8, Issue 11, July-2021

**Fundamental of Fluid Dynamics For the Spread of CoVid - 19**

[Published Online](#) | [PDF](#)

International Journal For Technological Research In Engineering

Volume 8, Issue 5, January-2021