

# DANYAL SAQIB

[Github](#) - [LinkedIn](#) - [Email](#) - [Google Scholar](#)  
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## EDUCATION

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<b>University of British Columbia (UBC)</b> , Vancouver, Canada PhD Electrical and Computer Engineering Thesis: “Behavioral Systems Theory for Data-Driven Control of Complex Systems”	<i>Sep 2025 - Present</i> CGPA: N/A
<b>University of Calgary</b> , Canada MSc Mechanical Engineering Thesis: “Adaptive PD Gains for Energy-Conscious Control in Physical Human-Robot Interaction”	<i>Sep 2022 - Jan 2025</i> CGPA: 3.94
<b>National University of Sciences &amp; Technology (NUST)</b> , Pakistan BE Electrical Engineering Thesis: “Scalable Self-Supervised Learning for Robotic Grasping”	<i>Sep 2017 - Jul 2021</i> CGPA: 3.59

## ACADEMIC EXPERIENCES

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<b>Research Assistant</b> , Padoan Lab, UBC Research Assistant at the Padoan Lab at the University of British Columbia. Researching data-driven control and behavioral systems theory.	<i>Sep 2025 - Present</i>
<b>Teaching Assistant</b> , Faculty of Applied Science, UBC I have been a TA for the following courses at the University of British Columbia: <ul style="list-style-type: none"><li>• ELEC 571 - Computational Control (COCO)</li></ul>	<i>Sep 2025 - Present</i>
<b>Research Assistant</b> , CHRC Lab, UCalgary Research Assistant at the Calgary Human-Robot Collaboration Lab at the University of Calgary. Researching compliant control algorithms for human-robot interaction.	<i>Sep 2022 - Jan 2025</i>
<b>Teaching Assistant</b> , Schulich School of Engineering, UCalgary I have been a TA for the following courses at the University of Calgary: <ul style="list-style-type: none"><li>• ENME 502 - Mechanical Engineering Capstone Project 2</li><li>• ENME 501 - Mechanical Engineering Capstone Project 1</li><li>• ENME 505 - Robotics</li></ul>	<i>Jan 2023 - Jan 2025</i>
<b>Team Lead - Electrical Engineering</b> , Drillbotics, UCalgary Team Lead for the Electrical Engineering team of Drillbotics at UCalgary. We secured second place in the international competition for 2024.	<i>Sep 2023 - Sep 2024</i>
<b>Research Assistant</b> , ROMI Lab, SEECS, NUST Research Assistant at the Robotics and Machine Intelligence Lab at SEECS, NUST. Did my Final Year Project in the domain of Self-Supervised Robotics using ROS and Neural Network Interfacing.	<i>Aug 2020 - Jun 2021</i>
<b>Teaching Assistant</b> , SEECS, NUST I have been a TA for the following courses at NUST: <ul style="list-style-type: none"><li>• SE 807 - Machine Learning</li><li>• CS 470 - Machine Learning</li></ul>	<i>Aug 2020 - Jun 2021</i>

## PUBLICATIONS

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### Conference Abstracts and Posters

- **Adaptive PD Gains for Energy-Conscious Control in Physical Human-Robot Interaction**  
Danyal Saqib, Marie Charbonneau, *Alberta RISE Conference, 2024*

## Theses

- **Adaptive PD Gains for Energy-Conscious Control in Physical Human-Robot Interaction**  
Danyal Saqib, Marie Charbonneau, *University of Calgary*, 2025  
Link to Publication: <https://prism.ucalgary.ca/items/cdf66541-e6c6-468b-a76a-7e4d9721a715>
- **Self Supervised Deep Learning for Robot Grasping**  
Danyal Saqib, Wajahat Hussain, *NUST*, 2021  
Link to Publication: <https://paperswithcode.com/paper/self-supervised-deep-learning-for-robot>

## PROFESSIONAL EXPERIENCES

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<b>Algorithms Engineer</b> , Adept Tech Solutions Working on various aspects relating to Big Data Processing, Statistical Analysis, Machine Learning, and QA Testing.	<i>Mar 2022 - Sep 2022</i>
<b>Machine Learning Engineer</b> , DCube Tech. Deployment of Computer Vision models for real-time media analytics. Major problems include recognition and transcription of text, and facial recognition and classification.	<i>Nov 2021 - Mar 2022</i>
<b>Computer Vision Intern</b> , Freelance Work related to Computer Vision research, specifically in the domain of unbiased scene graph generation.	<i>Mar 2021 - Aug 2021</i>
<b>Deep Learning Intern</b> , ASP Lab, SEECS, NUST Research Intern at Advanced Signal Processing Lab at SEECS, NUST. Projects done in Deep Learning and Computer Vision.	<i>Jul 2020 - Oct 2020</i>
<b>Scientific Content Writing Intern</b> , Spectra Science Magazine Focus on key aspects of Scientific Writing such as maintaining scientific accuracy, effective storytelling, and interview skills.	<i>Jun 2018 - Aug 2018</i>

## SELECT PROJECTS

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<b>Scalable Self-Supervised Learning for Robotic Grasping</b> , NUST This is my Bachelor's thesis. We created a scalable robotic setup that automates both the collection of data, dataset labelling, and the training of the Neural Network for grasping. Based on papers published by Alex Krizhevsky and Abhinav Gupta. GitHub Repository: <a href="https://github.com/danyalsaqib/self-supervised-robotic-grasping">https://github.com/danyalsaqib/self-supervised-robotic-grasping</a>	<i>Jul 2020 - Jun 2021</i>
<b>Unbiased Scene Graph Generation</b> , Insight SFI Research Centre An implementation of an unbiased scene graph generator using Kaihua Tang's published papers and github repository as references. Some of the work includes addition of windows compatibility, block diagrammatic explanations, and implementation of the SGG as a function on image inputs. GitHub Repository: <a href="https://github.com/danyalsaqib/SGG_Custom">https://github.com/danyalsaqib/SGG_Custom</a>	<i>Mar 2021 - Aug 2021</i>
<b>Machine Learning Basics</b> , SEECS, NUST Creation of tutorials for Machine Learning Basics, as part of the teaching assistantship at SEECS, NUST. Tutorials include coding lessons for the most commonly used libraries in Machine Learning. GitHub Repository: <a href="https://github.com/danyalsaqib/Machine-Learning-Basics">https://github.com/danyalsaqib/Machine-Learning-Basics</a>	<i>Jun 2020 - Feb 2021</i>
<b>Systematic Comparison of Neural Network Architectures</b> , NUST Comparing different CNN Architectures using Transfer Learning. Also compared various data augmentation techniques such as geometric transformations, DCT, and DWT. GitHub Repository: <a href="https://github.com/danyalsaqib/Transfer-Learning-with-Data-Augmentation">https://github.com/danyalsaqib/Transfer-Learning-with-Data-Augmentation</a>	<i>Jul 2020 - Sep 2020</i>

## ARM Microcontroller based DMM, NUST

Mar 2019 - May 2019

Implemented a Digital Multimeter using the ADC on an ARM Cortex M4 based STM32F407 Discovery Board. DMM capabilities included measuring Voltage, Current, and Resistances.

GitHub Repository: <https://github.com/danyalsaqib/ARM-Cortex-Multimeter>

## SKILLS

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### Programming Languages and Frameworks

- ROS - Robot Operating System for various setups, with a special focus on ros control packages
- RBDL and Pinocchio for Robot Kinematics and Dynamics
- Assembly, C/C++, and RTOS for Microcontrollers - ARM and AVR Platforms
- Python - Scikit-Learn, NumPy, Pandas, and Matplotlib for Machine Learning
- Pytorch, Keras, and Tensorflow for Deep Learning and Computer Vision
- Flask APIs and Dockerfiles
- Engineering Software - Verilog HDL, Matlab, PSpice, Multisim, Proteus, and AutoCAD
- Quantum Computing - Qbronz Workshop organized by QPakistan and QWorld

### Languages

- Urdu - Highly Proficient (Mother Tongue)
- English - Highly Proficient (IELTS: 8.5/9.0)
- German - A1

## AWARDS AND SCHOLARSHIPS

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**Special Trainee Award for Accepted Abstract**, Alberta RISE Conference

Sep 2024

Award was given to the first 100 accepted abstracts at the Alberta RISE Conference 2024.

**Competition Winner**, Montreal Robotics Summer School

Jun 2023

Winner of the Autonomous Robotic Navigation Challenge at the Montreal Robotics Summer School 2023, held at Mila - Quebec AI Institute.

**NUST Merit Scholarship**, NUST

Jul 2019, Jan 2020

A Merit Scholarship, provided on a 3.8 and higher semester GPA.

**Roots Merit Scholarship**, Roots School System

Aug 2017

100 % Scholarship for A levels studies, based on O level grades.

## EXTRACURRICULAR ACTIVITIES

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**Baydari - An Awakening**, Non-Profit Organisation

Mar 2021 - Present

Founder and Charity Drives Organizer

**NUST Literary Circle**, NUST

Jan 2019 - Sep 2018

Graphics Designer

**SEECs Student Government Association**, NUST

Sep 2018 - Jul 2019

Graphics Designer

**IEEE SEECs Chapter**, NUST

Sep 2018 - Feb 2019

Event Logistics

**Honet-ICT 2018**, NUST

Sep 2018 - Oct 2019

Graphics Designer