

# DANIEL MEDINA REVECO

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## Summary

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I am an undergraduate student with a Bachelor of Engineering Sciences degree, on the path to complete a Mechanical Engineering Professional Title and Master of Science Degree. In my Bachelor program I have specialized in Robotics, where I am deeply interested in subjects such as Control Theory and Design of Robotic Systems. I have worked with automotive robots driven by computer vision, self-balancing robots, line followers, robot arms and CanSats.

A considerable part of my time in the program has been devoted to academia and research, working as a Teacher Assistant and Research Assistant; for this reason, I am highly interested in continuing my research career with the Double Title Degree in the Politecnico di Milano University.

## Education

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<b>Pontificia Universidad Católica de Chile</b>	<b>2017 – 2022 (expected)</b>
Bachelor of Engineering Sciences	2020
Professional title of Mechanical Engineer with major in Robotics	2022 (expected)
GPA of 6.3 in a scale of 1 to 7, currently ranked in the top 1% of the cohort.	

<b>Liceo Politécnico A-112, Santiago, Chile</b>	<b>2013 – 2016</b>
Medium Level Technical Certificate in Telecommunications.	
GPA of 6.8 in a scale of 1 to 7, graduated in the top 1% of the cohort.	

## Experience

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<b>Pontificia Universidad Católica de Chile</b>	Santiago, Chile
<i>Teaching Assistant</i>	2021
Taught review sessions, graded exams and assisted in the course project in the Robotics Major program course Fundamentals of Robotics for Professor Giancarlo Troni and Daniel Calabi.	
<i>Teaching Assistant</i>	2020
Taught review sessions in the Mechanical Engineering program course Dynamics of Mechanical Systems for Professor David Acuña.	
<i>Teaching Assistant</i>	2019
Taught review sessions and graded exams in the Mechanical Engineering program course Dynamics of Mechanical Systems for Professor Cristian Chavez Tapia.	
<i>Teaching Assistant</i>	2018
Taught review sessions and graded exams in the Engineering program course Calculus II for Professor José Torres Riffo.	

<b>Independent work</b>	Santiago, Chile
<i>Private Tutoring</i>	2021, 2020 and 2019
Tutored private classes to primary, middle school (mathematics) and university students (calculus, control of mechanical systems, mechanics of materials, dynamics of mechanical systems).	

<b>Dimeiggs S.A. (School supplies retailer)</b>	Santiago, Chile
<i>Shelf filler and Promoter</i>	Summer, 2019 and 2017

## Research experience

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<b>Pontificia Universidad Católica de Chile</b>	Santiago, Chile
<i>Research Assistant</i>	2020
Research conducting to the formulation of a methodology to implement torsion, bending and tensile tests for linear elasticity regime using Galerkin method with the Python open-source library NGSolve. Supervised by Professor Manuel A. Sanchez Uribe Ph.D., Institute of	

Mathematical and Computational Engineering (IMC), School of Engineering - Faculty of Mathematics.

*Capstone Project* 2020

Manufacture and control of a robotic arm tool capable of pollinating kiwi flowers identified with integrated computer vision. Supervised by Professors Daniel Calabi and Claudia Pincheira Robles, Department of Electrical Engineering.

*Research Project* 2020

Research project for the Mechanical Design course conducting to the study of fatigue in hydrokinetic turbine blades (Sabella D10) due to the variation of forces as a function of the angular position. Supervised by Professor Marcos Sanchez Paez Ph.D., Department of Mechanical and Metallurgical Engineering.

*Research Assistant* 2020

Research conducting to the design of a CanSat (pico-satellite prototype for launch and telemetry analysis) standard to be used in future university national competitions as an instrument of education, allowing engineering students to get involved in practical aerospace engineering experiences. Supervised by Professor Cristian Chavez Tapia, Department of Mechanical and Metallurgical Engineering.

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## Awards

- 2019 - Finalist in Investigación, Innovación y Emprendimiento contest with Strawfuel, a mechanism of making biofuel from wheat straw. Visit [cutt.ly/pyZyGZO](http://cutt.ly/pyZyGZO) to view the news report.
- 2017 - 3rd place in Desafíos de la Ingeniería contest with Cubex, a toylike rehabilitation tool for children with muscular atrophy. Visit [cutt.ly/kyZybfA](http://cutt.ly/kyZybfA) to view the news report.
- 2017 - "Talent & Inclusion" Merit Scholarship, School of Engineering UC.
- 2017 - "Padre Hurtado" Merit Scholarship, Pontificia Universidad Catolica de Chile.
- 2015 - Selected to be part of the "Escuela de Desarrollo de Talentos" program, Faculty of Economy & Business, Universidad de Chile.

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## Skills

- Machine: Machining (Mill and Lathe), Circuit Board Layout. 3D Printing Prototypes, 3D Scanning, CNC (Mill, Lathe and Laser Cutter).
- Hardware: Arduino boards, ESP32 board, Raspberry Pi boards, Basys 3 Artix-7 FPGA, DC & BLDC Motors, IMU Sensors, Oscilloscope & Multimeter.
- Software: Windows 10, Solidworks, AutoCAD, LaTeX, Matlab, CoppeliaSim (V-REP).
- Programming: Advanced level in Python, basic knowledge of C/C++.
- Languages: English (level B2 TOEIC), Italian (intermediate level), Spanish (native).

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## Additional

- Volunteering in Valparaiso, making playgrounds for low income neighborhoods.
- Interested in Robotics, Making Things, Design Sketching, Hiking, Bike Riding, Juggling, Photography, Cooking, Gardening.