



Fabián Andrés Iglesias Quilodrán

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Master of Science in Engineering, UFRO.

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I am a research scientist in applied engineering. My areas of interest in mechanical engineering include production automation, robotics, and artificial intelligence, with a focus on solving interdisciplinary problems. I worked on applied research projects at the University of La Frontera on robotic sanding and recently participated in a technology tour in Odense, Denmark, focused on collaborative robotics. I completed an internship at Ruhr-Universität Bochum in 2017. I have a keen interest in scientific communication, which has led me to participate in various initiatives at the university level. In the future, I aspire to consolidate my interests in research, science, and technology by pursuing a PhD.

Education

2023	Master of Science in Engineering
2021 - 2023	Master of Science in Engineering studies, specializing in Mechatronics and Intelligent Systems, Universidad de La Frontera.
2021	Mechanical Engineer
2015 - 2021	Mechanical Engineering studies, Universidad de La Frontera.
2019	Degree in Engineering Sciences.
07/2017 - 07/2018	Exchange Student - DAAD, Ruhr-Universität Bochum (Germany).

Experience

12/2022 - 07/2025	Project Engineer FONDEF IT21i0069 Development and validation of an intelligent robotic sanding and polishing cell for advanced manufacturing environments, Universidad de La Frontera.
08/2023 - 07/2024	Instructor for the course <i>Introduction to Industrial Computer Vision</i> , Universidad de La Frontera.

12/2022 - 05/2024	Project Director VIU22P0027 Project RuGo: Integrated technological solution for surface quality assessment of wood products using image-based algorithms, Universidad de La Frontera.
07/2022 - 12/2022	Project Engineer Development of a vision system for assessing the surface quality of sanded wood pieces in intelligent manufacturing environments. I2030 MACROFACULTAD Project - CORFO, Universidad de La Frontera.
04/2020 - 12/2022	Teaching Assistant in Production Automation and Robotics (IIM516), Universidad de La Frontera.
2020 - 2021	Research Assistant in the FONDEF ID18I10042 project: Intelligent Robotic Sanding. https://www.youtube.com/watch?v=lNejMBLfgTY
03/2019 - 12/2022	Teaching Assistant in Manufacturing Processes I (IIM430), Universidad de La Frontera.
07/2019 - 08/2019	Internship as a research assistant in the FONDEF ID18I10042 project: Intelligent Robotic Sanding.
03/2016 - 07/2016	Teaching Assistant in Physics I (ICF058), Universidad de La Frontera.

Scientific publications

Original article JCR Q1	Iglesias, F., Aguilera, A., Rolleri, A., Wentzel, M., Diez, E.: Impact of surface roughness on the wettability of MDF processed by robotic sanding. European Journal of Wood and Wood Products. (2025). https://doi.org/10.1007/s00107-025-02231-1
Original article JCR Q1	Iglesias, F., Aguilera, A., Padilla, A., Vizán, A., Diez, E.: Application of computer vision techniques to estimate surface roughness on wood-based sanded workpieces. Measurement. (2024). https://doi.org/10.1016/j.measurement.2023.113917
Conference paper	Iglesias, F., Aguilera, A., Padilla, A., Madaf, M., Diez, E.: Optical Evaluation of Surface Roughness in Wood Parts Processed by Robotic Sanding. Proceedings of the XV Ibero-American Congress of Mechanical Engineering. IACME 2022. Springer, Cham. (2023). https://doi.org/10.1007/978-3-031-38563-6_52
CIBIM 2022 Congress Proceedings	Iglesias Quilodrán, F., Aguilera León, A., Padilla Bernedo, A., Madaf Poblete, M., Diez Cifuentes, E.: Evaluación óptica de la rugosidad superficial en piezas de madera procesadas mediante lijado robotizado. XV Congreso Iberoamericano de Ingeniería Mecánica. Universidad Politécnica de Madrid. (2022). https://doi.org/10.5944/bicim2022.119

Conferences and seminars

2024	Collaborative Robotics Technology Tour, Delegation Tour in Odense, Denmark. Visit to UR facilities and factory, OnRobot, University of Southern Denmark (Odense) and Technical University of Denmark (Copenhagen).
2023	Mechanical Engineering Students Conference CONEIM 2023. (Presentation).
2023	Conference on Computational Mechanics (Presentation).
2023	UFRO 2023 Graduate and Postgraduate Students and Graduates Conference (Poster)
2022	CIBIM 2022, Madrid, Spain. (Presentation)
2022	UFRO 2022 Graduate and Postgraduate Students and Graduates Conference (Thesis presentation in 5 min)

Management of research projects

12/2022 - 05/2024	FONDEF Project VIU22P0027 RuGo: Integrated technological solution for surface quality assessment of wood products using image-based algorithms, Universidad de La Frontera. Funded by the National Agency for Research and Development (ANID), Ministry of Science, Technology, Knowledge and Innovation, Chile.
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Awards

2022	Second place in the engineering and natural sciences category in the Thesis presentations in 5 minutes at the UFRO 2022 Student and Graduate Conference.
2021	Internal scholarship for the Master in Engineering Sciences.
2021	Award from the Faculty of Engineering and Science, Universidad de La Frontera.
2017	PING DAAD exchange scholarship in Germany.
2014	First place nationally in the INACAP 2014 Applied Mathematics Olympiad.

Training courses

01/14-15/2020	Seminar-Workshop: Simulation of Discrete Production Systems (DIM-UFRO)
12/2019	Matlab + Simulink Onramp (Mathworks)
04/22-26/2019	SolidWorks 2018 Course (DIM-UFRO - Talentum)

Other

2017 - 2019	Science communicator through DIVCiencia's digital platforms.
2018	Creator of the Punto Científico podcast.
07/2015 - 2017	Founder and organiser of the science communication group DIVCiencia, UFRO.

Language skills

Spanish	Mother tongue.
English	Intermediate - advanced Previously Level B1 UFRO
German	Level B1 (Goethe-Zertifikat 2025)

Digital skills

Office suites	Microsoft Office, Libreoffice.
Software	SolidWorks, MATLAB, Octave, Ansys, FlexSim, FluidSIM, CoDeSys, RStudio, Jupyter-Lab, LabVIEW.
Programming languages	MATLAB (medium level) R (basic level) Python (basic level)
Operating systems	Windows, Ubuntu.
Other	Inkscape, GIMP, Audacity, Adobe After Effects, Adobe Photoshop, Adobe Audition, Adobe Premiere.

Hobbies and interests

Photography, hiking, amateur radio (CD6FIQ), electric keyboard.

Fabián A. Iglesias Quilodrán
Temuco, Chile.
07.2025.