Joakin Ugalde

Contact Info

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Education

Universidad de Chile

2015 B. SC in Mechanical Engineering
2016 Ingeniería Civil Mecánica

Technical Skills

CAD	Autodesk Inventor, Autodesk Fusion 360, SolidWorks, AutoCAD
3D Printing	FDM, SLA.
Machining	Turning, Milling, CNC machining.
Electronics	Arduino, Eagle, basic electronics.
Programming	Python, Java, C++

Employment History

2015 - 2016 **Research assistant - Department of Mechanical Engineering, Universidad de Chile** Lab manager, researching about modular soft robotics, teaching assistant in robotics and digital fabrication courses.

2017 **Fablab staff - Fablab U de Chile** Develop machines, create courses to teach digital fabrication, machine maintenance, assisting students, academics and entrepreneurs in their hardware projects.

Research Publications

Journal Articles

1. Calderón, A. A., Ugalde, J. C., Chang, L., Zagal, J. C., & Pérez-Arancibia, N. O. (2019). An earthworm-inspired soft robot with perceptive artificial skin. *Bioinspiration & Biomimetics*, *14*(5), 056012. https://doi.org/10.1088/1748-3190/ab1440

Conference Proceedings

1. Calderón, A. A., Ugalde, J. C., Zagal, J. C., & Pérez-Arancibia, N. O. (2016). Design, fabrication and control of a multi-material-multi-actuator soft robot inspired by burrowing worms, In *2016 ieee international conference on robotics and biomimetics (robio)*.

Awards
ROBIO 2016 Best Paper Finalist Award IEEE Conference on Robotics and Biomimetics, Qingdao, China, 2016.

Skills

Languages	Spanish, english.
Software	Inkscape, Autodesk NetFabb, Matlab, Latex.

Teaching Experience

Universidad de Chile

Instructor

- Co-designed and taught *Robotics and automation workshop* at the Canadian Centre for Joining and Welding (CCWJ), University of Alberta. (2017)
- Co-designed and taught *Developing a SumoBot* for high school students at the Fablab Universidad de Chile. (2016)
- Co-designed and taught a variety of digital fabrication courses to engineering students within the *BRC: Beauchef robotics Challenge*, so they could build their own line follower robot. (2018, 2019)

Teaching assistant, 2014-2019

I assisted the courses *ME4030 Design and innovation seminar, ME4705 Digital Fabrication, ME3001 Digital Fabrication of technological products, EI2001 Developing soft robots, EI2001 Constructing kinetic sculptures, EI2001 Duckietown: Developing autonomous vehicles (Co-designed)*

Other Experience

Universidad de Chile

Hardware developer, 2020

I designed and built a mechanical ventilator **(BAMBU)** with a team of engineers and industrial designers at the engineering faculty, during the first wave of the COVID-19 pandemic. My job was to design the piping and actuation mechanism.

References

Available on Request