




Joakin Ugalde

Contact Info

 <http://github.com/jkugalde>


 joakin@fablab.uchile.cl

 (+569)42487403




Education

Universidad de Chile






2015  B. SC in Mechanical Engineering

2016  Ingeniería Civil Mecánica

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-until present  **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.
- 2021-until present  **Hardware developer - Solsticio SPA** Design and build hardware for an automatic process to generate wood planks using orientated chips and glue.

Technical Skills


- CAD  Autodesk Inventor, Autodesk Fusion 360, SolidWorks, AutoCAD
- 3D Printing  FDM, SLA.
- Manufacturing  Turning, Milling, CNC machining, 3D printing (SLA, FDM), silicone mold making for casting.
- Electronics  Arduino, Eagle, basic electronics.
- Programming  Python, Java, C++, Excel.

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.

Other skills

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


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*, *EL2001 Developing soft robots*, *EL2001 Constructing kinetic sculptures*, *EL2001 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.

Community co-founder, 2016

 With a group of friends we founded the Robotics Community of the university, our goal is to encourage students to get into the field through curricular and extracurricular activities, such as competitions and the courses described previously.

References

Available on request 

Portfolio at Github page  Personal website: <https://jkugalde.github.io/>