

## Contact

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## Languages

**Native or Bilingual:**  
Spanish, English

**Elementary:**

Italian, Norwegian,  
Chinese

## Programming

**Expert:**  
C, Python, Java

**Proficient:**

Bash, C++, Haskell

**Elementary:**

JS, MIPS Assembly, R

## Tools & Libraries

Linux  
Git  
ROOT  
L<sup>A</sup>T<sub>E</sub>X  
QT + PySide2

## Experience

2018–Now **CCTVal**

Valparaíso, Chile

*R&D Computer Engineer*

- Developer of standard HEP data analysis tools used in Run-Group E.
- Head of the Forward Micromegas Tracker alignment team.
- Head of the Drift Chambers offline reconstruction optimization team.
- Lead developer of the configuration, calibration, alarms, and front-end mechanical ventilator software systems.
- Blockchain developer for small-scale energy democratization project.

2020

**Upwork**

Remote

*Freelance Software Developer*

- Software developer in IoT and electroencephalography processing software.
- Various side-jobs in web development, mainly focused in front-end and UX design work.

2016–2018 **UTFSM**

Valparaíso, Chile

*Computer Architecture UTA*

- Head of course's teaching assistants.
- Teacher of weekly classes in tandem with the course's professor.
- Designer, supervisor, and evaluator of monthly hardware laboratory experiences and homework.

2018

**UTFSM**

Valparaíso, Chile

*Artificial Intelligence UTA*

- Supervisor and evaluator of the final project of the course.
- Assistant in test evaluation.

2017–2018 **w/ Ben Tatum**

Los Angeles, US

*Field Service Engineer*

- Assistant in electricity and computer network installations at residential and commercial buildings in Los Angeles.

## Education

2021–Now **M.Sc.** in High Energy Physics

UTFSM, Chile

2017–2019 **Title (M.Sc. equivalent)** in Computer Engineering

UTFSM, Chile

2012–2017 **B.Eng.** in Computer Engineering

UTFSM, Chile

## Publications

2022

Co-author in **Alignment of the CLAS12 central hybrid tracker with a Kalman Filter**

CLAS Collaboration

2022

Co-author in **Exclusive  $\pi^-$  Electroproduction off the Neutron in Deuterium in the Resonance Region**

CLAS Collaboration

2022

Co-author in **Beam-Recoil Transferred Polarization in  $K^+Y$  Electroproduction in the Nucleon Resonance Region with CLAS12**

CLAS Collaboration

## Interests

**Professional.** High energy physics, scientific computing, data analysis, blockchain technologies, optimization, heuristic algorithms, machine learning, neural networks.

**Personal.** Piano, music production, woodworking, D&D, worldbuilding, design, juggling.