

Kiernan Preve

San Luis, Argentina · English C1 (TOEFL 106)

EU Citizenship (Italian)

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Professional Summary

Physics student with an interdisciplinary background focused on the hardware-software bridge applied to biological systems. Specialist in the data value chain: from experimental design and capture via sensors and **Computer Vision (OpenCV)** to statistical analysis and modeling in Python/R. Active experience in the AgTech sector through magnetopriming research and the development of low-cost scientific instrumentation.

Key Skills

Scientific Computing: Python (pandas, NumPy, **OpenCV**, SciPy), R, SQL, Julia, Physical Modeling.

Hardware & IoT: Arduino (C/C++), Data Acquisition (DAQ) protocols, environmental sensors, open-source scientific hardware.

Methodologies & Ops: Git/GitHub, Linux (Fedora/Silverblue), Agile (Scrum), bilingual technical communication.

Languages: English (C1 - TOEFL 106), Spanish (Native), German (A1), French (A1).

Experience

Undergraduate Research Assistant (Thesis)

2025–Present

MBLab (Magnetobiology Lab) — UNSL

- Research on **Magnetopriming** in maize seeds: studying magnetic field effects on germination vigor and early growth.
- Developed a **Computer Vision system using OpenCV** for automated seed counting and radicle length measurement, significantly reducing human error and processing time.
- Performed experimental data analysis and growth curve modeling using Python.

Instrumentation Developer

2021–2022

LibreLab UNSL

- Prototyped low-cost sensors and scientific instrumentation based on open-source hardware.
- Integrated microcontrollers with visualization interfaces for real-time monitoring of physical variables.

Scrum Master

2024–Present

MakisanTech

- Facilitated workflows for tech development teams, ensuring seamless alignment between hardware and software delivery.

Selected Projects

Automated Phenotyping (OpenCV): Image processing algorithm for morphological trait extraction in maize seedlings.

Low-cost IoT Rain Gauge: Arduino-based precipitation measurement system designed to improve local hydrological data resolution.

NASA Space Apps Challenge: Integrated satellite datasets for the visualization of complex physical phenomena.

Education

MSc Equivalent in Physics (Licenciatura en Física) — Universidad Nacional de San Luis (UNSL)

2018–Present · Expected Graduation: Last Quarter 2026

Associate Degree in Applied Physics — Universidad Nacional de San Luis (UNSL)

2018–2023

A.S. in Music Production — Universidad Nacional de San Luis (UNSL)
2013–2017

Certifications & Courses

Python and Jupyter Notebook — UNSL (2018)
Java and SQL Programming — UNSL (2017)
Audio Mastering — Escuela Tecson (2016)

Additional Information

Music Production: Arrangement, mixing, and mastering (Pro Tools, Studio One, Ableton, Cubase).
Writing: Published author of *Dentro del Origen* (ISBN 978-9878242514).