

Carlos Calabuig Patino

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SUMMARY

B.S. student at MSOE with numerous and diverse hands-on and team-based project experiences. Devoting 30 hours a week to NCAA athletics. Leadership experience on athletic teams. Skills in SOLIDWORKS, MATLAB, Python, Data Analysis, 3D Designing and Printing, Electrical Circuit Design, and Technical Reporting.

EDUCATION

B.S. Biomedical Engineering | Milwaukee School of Engineering | GPA: 4.0 | Expected May 2027

H.S. Diploma | Hoosac School | Hoosick Falls, NY | GPA: 3.97 | Graduation June 2023

PROJECT EXPERIENCE

Engineering Design Project: Develop an ECG device in accordance with medical standards that allow medical professionals to make intuitive, effective, and safe use of the equipment.

- Brainstormed and analyzed design possibilities to optimize quality, productivity, and the user experience.
- Collected measurements required for precise design and researched ECG medical devices standards.
- Developed and 3D printed an ECG connection component for pins to interface with a standard ECG lead set implementing SolidWorks and PrusaSlicer.
- Wrote a program to interact with Arduino and display electric signals from the ECG board.
- Produced vinyl-colored labels indicating body parts and lead colors according to medical standards to offer an intuitive user experience.
- Collected and analyzed test data and modified for optimal performance.
- Presented the final result to students and faculty members, including a 10-page technical report.

Water Quality Project (Sponsor: Universitat Politècnica de València and FECYT): Determine the volume and quality of water in the aquifers in the Villena area to acquire an improved comprehension of Villena area's water resources, as well as their management and use.

- Investigated and evaluated data such as rain data, volume of aquifers, and water use.
- Collected water samples from two Villena area wells to sample test.
- Measured pH levels of water samples collected from independent aquifers.
- Interpreted values associated with pH analysis results using Excel to understand quality of water.
- Presented findings to students and stakeholders to raise awareness about proper water use.

Result: Project Winner of the Project "Investigate! Save the planet!" from the Universitat Politècnica de València and FECYT.

TECHNICAL SKILLS

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| ▪ SOLIDWORKS | ▪ Data Analysis | ▪ Technical Reporting |
| ▪ MATLAB | ▪ 3D Designing and Printing | ▪ Cell Biology and Genetics |
| ▪ Python | ▪ Electrical Circuit Design | ▪ Microsoft Office |
| ▪ Medical Device Design | ▪ Excel | ▪ Laboratory Skills |

NCAA STUDENT ATHLETE EXPERIENCE

MSOE NCAA Men's Tennis Team | Aug 2023 – Present | 30 hrs per wk

- Balance 3 term, 2-hour daily practice, off-season training camp; bi-weekly game travel with full-class schedule.
- Study, learn, and execute numerous game strategies, mechanics, and systems.
- Practice troubleshooting and problem-solving techniques in high-stress, real-time competitive environment and immediately modify strategy accordingly.

Developing teamwork, communication skills, time management and prioritizing skills, competitive character, highly disciplined work ethic, and performance excellence.

LEADERSHIP | CO-CURRICULAR INVOLVEMENT

Robotics Team Instructor | MSOE STEM Center | September 2023 - Present | 5 hrs per wk

Member | National Honors Society | May 2023 – Present

Tennis Team Captain | Hoosac School | September 2021 - June 2023 | 25 hrs per wk (H.S.)