

HECTOR LOPEZ GONZALEZ

Mechatronics Engineer • Advanced Process Control Systems Engineer • Embedded Systems Engineer
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Innovative and results-driven Mechatronics Engineer with over 5 years' experience in process control, embedded systems and virtual reality. Expertise in industrial automation, software development, and implementing cutting-edge technologies to develop complex systems that enhance productivity and efficiency. Proven track record of leading cross-functional teams, exceptional problem-solving abilities and thriving in high-pressure environments. Committed to leveraging advanced engineering skills to develop innovative solutions in mechatronics and related fields.

SKILLS

PROFESSIONAL SKILLS	<ul style="list-style-type: none">• Leadership• Problem-solving	<ul style="list-style-type: none">• Critical thinking• Communication	<ul style="list-style-type: none">• Adaptability• Quick learning	<ul style="list-style-type: none">• Innovation• Creativity
TECHNICAL SKILLS	<ul style="list-style-type: none">• Control systems• Circuits design	<ul style="list-style-type: none">• Embedded systems• Robotics	<ul style="list-style-type: none">• PLC programming• Instrumentation	<ul style="list-style-type: none">• Virtual reality• Artificial intelligence
SOFTWARE PROFICIENCY	<ul style="list-style-type: none">• MATLAB SIMULINK• Embedded C• Autodesk Inventor	<ul style="list-style-type: none">• C C# C++• Python Micro Python• React.js SQL	<ul style="list-style-type: none">• Ladder logic• Siemens TIA Portal• Rockwell CCW	<ul style="list-style-type: none">• Unity• MQTT• VICON Nexus

LANGUAGES

- Spanish (Native)
- English (Proficient – C2)
- German (Beginner)
- Portuguese (Beginner)

PROFESSIONAL EXPERIENCE

Universidad Iberoamericana | Mexico City, Mexico

UNIVERSITY LECTURER | January 2022 – December 2023

- Designed and conducted a master's-level course on Virtual Reality and Haptic Devices Programming.
- Delivered weekly lectures on Circuits Engineering and Embedded Systems Engineering to over 100 undergraduate students, achieving a 95%+ course satisfaction rate.

POSTGRADUATE RESEARCH ASSISTANT | January 2020 – March 2022

- Developed 4 immersive virtual reality environments and 3 innovative haptic devices, resulting in 1 published paper, 2 conference presentations and 1 radio program feature.
- Mentored and provided technical guidance to postgraduate researchers on advanced control systems, robotics and virtual reality, contributing to 3 successful project completions.

UNDERGRADUATE RESEARCH ASSISTANT | August 2015 – January 2020

- Programmed and implemented embedded systems for robotics and multi-agent systems for the Institute of Applied Research and Technology (INIAT), contributing to more than 5 successful projects.

Ultrasist S.A. de C.V | Mexico City, Mexico

LEAD FRONT-END ENGINEER | March 2023 – December 2023

- Led a team of 6 programmers to deliver 2 web applications, conducted client meetings, managed client relationships, delegated tasks and developed front-end solutions using React.Js.
- Achieved a 50% increase in front-end performance through optimized code and user interface enhancements.

SENIOR SOFTWARE ENGINEER | July 2022 – March 2023

- Developed APIs in C# and contributed to front-end development using React.Js.
- Successfully delivered 2 confidential projects in 50% of the allocated time.

Freelance (self-employed) | Mexico City, Mexico

EMBEDDED AND PROCESS CONTROL SYSTEMS ENGINEER | April 2020 – June 2022

- Managed client relationships, designed process control systems, developed embedded software, programmed PLCs, designed mechanical parts, created prototypes and led teams to deliver multiple successful projects.
- Increased the productivity of an industrial face mask production system by 100% and installed 17 drone port systems across Mexico.

All Robot | Mexico City, Mexico

EMBEDDED AND PROCESS CONTROL SYSTEMS ENGINEER | April 2019 – December 2020

- Implemented process control systems, developed embedded software, programmed PLCs, selected and installed sensors and actuators, and designed mechanical parts for a 9 modules automation testing system and developed embedded software for 2 courses for professionals in the automotive industry.

----- EDUCATION -----

MASTER OF SCIENCE IN ENGINEERING

Universidad Iberoamericana, Mexico City, Mexico | January 2020 – March 2022

- GPA: 9.9/10 | Awards: Honourable Mention
- Thesis: Formation Control of Thermal Agents for Distributed Heat Sensations in Immersive Virtual Reality Applications.
- Relevant Courses: Advanced Process Control | Advanced Biomechanics | Engineering Systems Design |

BACHELOR OF MECHATRONICS AND PRODUCTION ENGINEERING

Universidad Iberoamericana, Mexico City, Mexico | August 2014 – May 2019

- GPA: 9.2/10 | Awards: Academic Excellence and Honourable Mention
- Thesis: Parallel Cable Robot for Storage Facilities Inventory Control.
- Relevant Courses: Process Dynamics | Embedded Systems | Process Control | Industrial Automation |

BACHELOR OF MECHATRONICS AND PRODUCTION ENGINEERING (Exchange Program)

University Of Wollongong, Wollongong, New South Wales, Australia | July 2018 – December 2018

- Relevant Courses: Robotics and Flexible Automation | Game Engine Essentials |

----- CERTIFICATIONS -----

ITIL® Foundation Certificate in IT Service Management (No. GR671539832HL)

- Demonstrates proficiency in IT service management, enhancing project management capabilities.

IELTS ACADEMIC: 8.5/9.0 (CEFR level C2) – Test Report Number: 23MX501316LOPH030A

- Confirms high proficiency in English.

----- PUBLICATIONS -----

“Formation Control for Thermal Multi-agent Systems” [DOI: [10.1109/URUCON53396.2021.9647108](https://doi.org/10.1109/URUCON53396.2021.9647108)]

----- EXTRACURRICULAR ACTIVITIES -----

Master’s degree student representative | Postgraduate Technical Council | Universidad Iberoamericana (2021-2022)
Events director and public relations | Student Association of Electronics Engineering | Universidad Iberoamericana (2016-2018)

Third-division professional football player | Atlante F.C., C.D. Guadalajara, and Club Santos Laguna (2010-2015)