

# Carlos Enrique García Díaz

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## EDUCATION

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### Tecnológico de Monterrey, Mexico

M.Sc. in Artificial Intelligence

**Apr. 2025 – Present**

GPA: 100/100

### Tecnológico de Monterrey, Mexico (Monterrey, NL)

B.S. Mechanical and Electrical Engineering

**Aug. 2018 – Dec. 2022**

GPA: 98.24/100

Highest GPA of the 124<sup>th</sup> generation of Mechanical and Electrical Engineering

### Massachusetts Institute of Technology, USA (Cambridge, MA)

**Summer stay, Jun. – Jul. 2022**

One-week hands-on introduction to microfabrication technology using the diverse toolsets of MIT.nano.

Micro- and Nanofabrication Techniques I & II (Tecnológico de Monterrey)

Advisors: Luis Velázquez-García, Ph.D. and Adriana Vargas, Ph.D.

## WORK EXPERIENCE

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### John Deere

#### Enterprise Technology & Engineering Center (San Pedro, NL, Mexico)

**Sep. 2022 – Present**

Manager: Abraham Martínez, M.S.

| Electrical Design Engineer

- Created harness schematics, models, and drawings for the manufacturing of new electric and combustion tractors.
- Conducted circuit analyses and simulations to validate that safety features comply with industry standards.
- Executed mechanical bracket designs to securely retain electrical components and optimize space.
- Supported the back-end development of internal applications, enhancing overall efficiency using Python and VBA.

### Diram

#### Design and Specification Center

**Sep. 2021 – Mar. 2022**

Manager: Edder Cázares, M.E.

| Power Quality Solutions Intern

- Conducted power quality analyses to ensure compliance with national regulations and industry standards.
- Designed power quality solutions using power banks and harmonic filters according to customer needs.

### Tecnológico de Monterrey

#### Engineering and Computerized Design Dept.

**Feb. 2020 – Jul. 2020**

Manager: Teresa Soriano, M.S.

| Teaching Assistant

- Supported classroom and laboratory instruction by assisting engineering students in effectively using CAD software.
- Provided guidance to engineering students, enhancing their models and manufacturing drawing deliverables.

## COURSES, PROJECTS AND COMPETITIONS

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### SAE International

#### Formula SAE Competition 2025 (Michigan, USA)

**May 2024 – Dec. 2024**

Advisor: Manuel Martinez, Ph.D.

| Electrical Design Mentor

Contributed to the electrical development of a high-performance single-seater Formula SAE electric vehicle.

Mentored the team in the use of CAD and electrical software to meet the specifications of the 2024 FSAE rules.

## **Massachusetts Institute of Technology**

### **MIT.nano Course (Cambridge, MA, USA)**

**Jun. 2022 & Jun. 2025**

Advisor: Luis Velázquez-García, Ph.D.

| Certified

One-week hands-on introduction to microfabrication technology using the diverse toolsets of MIT.nano.

## **Tecnológico de Monterrey**

### **EVSE Development Project (Monterrey, NL, Mexico)**

**Mar. 2022 – Jul. 2022**

Advisor: Jesús Valdez, Ph.D.

| Research

Assisted a research group in documenting and developing an IEC Type 2 EVSE prototype.

## **Tecnológico de Monterrey**

### **Impulso International Congress (31<sup>st</sup>, 32<sup>nd</sup> & 35<sup>th</sup> editions)**

**Nov. 2020, Nov. 2021 & Mar. 2025**

Advisor: Mauricio Mojica, M.S.

| Presenter

Mechanical engineering international congress organized by engineering students of Latin America.

CAD workshop instructor and certification prep presenter for over 60 attendees.

## **SAE Mexico**

### **Baja SAE Mexico Competition 2019 (Toluca, Mexico)**

**Nov. 2019 – Mar. 2021**

Advisor: Mauricio Mojica, M.S.

| Participant – 23<sup>rd</sup> place

Contributed to the design and build of a single-seat off-road Baja vehicle for intercollegiate competition.

Improved team placement by 10 positions year over year, achieving a top 25 finish.

## **HONORS AND AWARDS**

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| • Top Performer (1 <sup>st</sup> place) Award of Fiscal Year 2025 Q3 – John Deere ETEC EER | 2025 |
| • Full-Tuition Academic Excellence Scholarship (sole recipient) – Master's Degree          | 2025 |
| • Most Valuable Engineer Award of Fiscal Year 2024 Q1 – John Deere ETEC EER                | 2024 |
| • Highest GPA of the 124 <sup>th</sup> generation of Mechanical and Electrical Engineering | 2022 |
| • Honorable Mention of Excellence awarded by Tecnológico de Monterrey                      | 2022 |
| • Outstanding Engineering Student Award from Tecnológico de Monterrey                      | 2020 |
| • Golden Gear Award for highest-scoring alumni in Mechanical Engineering                   | 2019 |
| • Academic Scholarship for Best Candidates awarded by Tecnológico de Monterrey             | 2018 |

## **VOLUNTEERING**

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### **FIRST LEGO League – Regional Competition Judge**

**Jan. 2025**

Scored teams across FLL rubrics (Core Values, Innovation Project, Robot Design) and delivered improvement feedback.

### **SACBÉ – Group Mentor and Private Tutor**

**Jan. 2019 – Jun. 2021**

Mentored over 30 middle- and high-school students in a social-entrepreneurship program tackling academic attrition.

Tutored core subjects and guided college prep (study skills, exam prep, applications), helping students plan future pathways.

## **SOFTWARE SKILLS**

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**Programming:** Python, SQL, MATLAB, Arduino, and VBA.

**Electronics:** Altium Designer, Siemens CHS, and LTspice.

**CAD:** SolidWorks, CATIA, Siemens NX, and CREO.

**PLM:** PTC Windchill and SAP PDM.

**CFD:** ANSYS, COMSOL, and SolidWorks.

**Office:** Microsoft Office, Tableau, and Minitab.

**Finite Element Analysis:** SolidWorks, ANSYS, and CREO.

**Languages:** English (C1), German (B1), Spanish (Native).