

Carlos Andres Barredez Rios

Instituto Tecnológico y de Estudios Superiores de Monterrey

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Portfolio



Profile

Currently pursuing my degree in Digital Systems and Robotics Engineering at Tecnológico de Monterrey, I have developed a significant passion and proficiency in the field of Data Analysis. This specialization has allowed me to understand and utilize the transformative power of advanced analytics in various technological applications. Beyond theoretical knowledge, I have applied sophisticated analytical techniques in a variety of projects to derive deep insights and promote data-driven decision-making. My experience living in Argentina, Mexico, Panama, and Germany has strengthened my ability to quickly adapt to different cultures. This international experience has enhanced my capability to face technological challenges from a global perspective and has prepared me to tackle complex challenges in sectors where data analysis plays a crucial role.

Education

M.Sc. in Computer Science **Since April 2025**

IU International University of Applied Sciences, Berlin, Germany

B.Sc. in Robotics and Digital Systems Engineering **Aug 2020 - Jun 2024**

Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Mexico City, Mexico

- Currently pursuing a comprehensive curriculum with an emphasis on AI, machine learning, and robotics automation.
- Engaging in hands-on projects and collaborative research initiatives to apply theoretical knowledge in practical settings.

Professional Experience and Achievements

Co-founder & Operations Manager **Jan 2015 - Present**

Manga Panama, Panama City, Panama

- Managing inventory and overseeing supply chain operations to streamline product delivery and enhance customer satisfaction.

Research Assistant **Aug 2023 - Jun 2024**

ROLA Autonomous Systems Laboratory, ITESM, Mexico City, Mexico

- Leading the development of advanced vision and mapping algorithms for the PIXLOOP-Hooke autonomous platform.

Robotics Engineer **Aug 2023 - Jun 2024**

Machina Robotics Laboratory, Mexico City, Mexico

- Contributing to the design and programming of autonomous racing algorithms for the F1 Tenth competition hosted by MIT.

Training of deep learning computer vision model applied in supermarket **Aug 2023 - Dec 2023**

Mexico City, Mexico

- In charge of training the product detection model using computer vision recognition models applied in inventory control.

Extracurricular experience

German Language Immersion

Jan 2023 - Mar 2023

BWS Germanlingua, Munich, Germany

- Attained B2 proficiency through an immersive language program.

Event Volunteer Office Support

2023

OMDAI-FIA Mexico City Grand Prix, Mexico City, Mexico

- Facilitated event operations and logistics for the Formula 1 Grand Prix, enhancing event execution and guest experience.
- Provided essential support for event planning and management, contributing to the seamless execution of F1 and F4 event.

Skills

Programming Languages

Assembler (Intermediate)	Python (Intermediate)	C++ (Basic)	C (Intermediate)
MATLAB (Intermediate)	L ^A T _E X (Intermediate)	RStudio (Basic)	

Development Platforms

Ubuntu	Arduino	ROS/ROS2	Cisco Packet Tracer
Microchip Studio	STM32Cube IDE	YOLOV8	

Languages

Spanish [Native]	English [Advanced]	German [Intermediate]
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Soft Skills

Leadership	Negotiation	Adaptability	Integrity
Commitment	Teamwork	Effective Communication	Problem Solving

References

PhD Alfredo V. Mantilla C.

amantill@tec.mx

Robotics Director Tecnológico de Monterrey CCM

PhD David C. Balderas S

dc.balderassilva@tec.mx

Researcher-Professor- Tecnológico de Monterrey CCM

PhD Rolando B. Montesano

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Professor of the technological computing department of Monterrey