

## **Diego Villanueva Fernandez**

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### **Education**

**Tec de Monterrey**, Monterrey, Nuevo León, B.S. in Robotics and Digital Systems Engineering, August 2025 - Present.  
GPA: 98/100

**Prepa Tec, Garza Sada**, Monterrey, Nuevo León, Multicultural High School Diploma with Honors,  
GPA: 94.7/100, August 2022 – May 2025.

### **Experience**

**BOTBUSTERS 4635** Monterrey, Nuevo León, **Programming Mentor**, May 2025 - Present.

- Organized and led a programming group of 30 students.
- Teach object-oriented programming, focusing on automation of mechanisms using methods such as command-based coding and controllers like PID and Feedforward.
- Teach computer vision programming using OpenCV and TensorFlow, including object detection, pose estimation relative to the camera, and direct command execution with AprilTags.
- Guide students in version control and collaboration through Git, managing multiple forks and maintaining an automated update workflow.
- Manage project organization using Scrum methodology, dividing the season into sprints and assigning tasks by teams to ensure structured progress toward shared goals.
- Foster a sense of belonging within the team by promoting inclusion and maintaining a healthy environment.

**UNIVERSITY OF CALIFORNIA, SAN DIEGO**, San Diego, California, **Research Assistant**, May 2024 – August 2024

- Researched the phenomenon of water droplet levitation and its potential applications in medical devices.
- Analyzed droplet behavior across varying frequencies and established correlations between them.

**BOTBUSTERS 13531**, Monterrey, Nuevo León, **Programmer**, September 2021 – May 2025.

- Programmed a complex and fully functional robot for competition using object-oriented programming in C++, Java, and Python.
- Developed innovative solutions to robotic challenges.
- Competed in over 23 national and international tournaments, achieving 19 victories.

### **Skills and Interests**

**Technical:** Advanced proficiency in C++, Java, and Python; Robotics and Automation; Project Management.

**Languages:** Spanish (Native), English (C1), French (A2), German (B1).

**Interests:** Playing piano, rock climbing, hiking.