Santiago Hernández Senosiain

✉ cv@santihdzs.com | 🔗 santihdzs | ⚙ santihdzs | 🔗 portfolio

EDUCATION

Instituto Tecnológico y de Estudios Superiores de Monterrey – BSc Computer Science · Aug. 2024-Present
- Relevant Coursework: Algorithms, Database Systems, Object-Oriented Programming.
- Achievements: Contributed to the redevelopment of MiTEC, enhancing user experience for over 50,000 students.

The Edron Academy – International Baccalaureate Diploma · July 2024
- Higher Level Subjects: Computer Science, Mathematics, Economics.

PROFESSIONAL EXPERIENCE

ITESM – Undergraduate Researcher · Oct. 2025 – Present
- Supervised by Dr. Gerardo Ibarra Vázquez
- Conducting robustness evaluation of DCNNs under adversarial perturbations.
- Designing a hybrid CNN architecture that combines layers with evolutionary-optimized parameters and manually configured ones to improve robustness and generalization.

ITESM – Teaching Assistant · Aug. 2025 – Dec. 2025
- Assisted in the Programming of Data Structures and Fundamental Algorithms course (TC1031).
- Designed programming assignments and exercises for ∼90 students.
- Developed detailed solution sets to validate professor's assignments and ensure accurate student feedback.
- Created presentations to support lectures on core data structures and algorithms.

Engen Captial – Work Shadowing Experience · Nov. 2022 – Dec. 2022
- Gained hands-on experience with Agile software development, participating in sprint planning and iterative project delivery.
- Collaborated with a team of data scientists to clean and analyze financial datasets for high-profile clients, including Walmart.
- Developed a Spring Boot project using Spring Initializr and Kotlin, delivering scalable and maintainable backend solutions.

EXTRACURRICULAR

ITESM Competitive Programming Club – Member · Aug. 2025 – Present
- Attending regular problem-solving sessions focused on algorithms, data structures, and competitive programming techniques.
- Collaborating with a 3-member team to prepare for national and international competitions, including the International Collegiate Programming Contest (ICPC).

RESEARCH PROJECTS

RSA Encryption | *Number Theory, Algebraic Structures, Cybersecurity* · Mar. 2024
- Conducted in-depth research on the security of RSA encryption, identifying potential vulnerabilities in its implementation.
- Utilized group theory to analyze the algebraic structure of the cryptosystem, devising a theoretical approach to derive private keys from public keys.
- Authored a paper on the findings, which received the highest possible grade (7) for IB coursework.

National Hockey League Modeling | *Mathematical Modeling, Large-scale Data Analysis* · Oct. 2023
- Developed a mathematical model to predict winning teams in National Hockey League (NHL) matchups, based on the Bradley-Terry model.
- Enhanced predictions by implementing exponentially weighted moving averages (EWMA) to account for recent performance trends.

SKILLS & INTERESTS

Languages: English and Spanish (fluent in both)

Software: C++, Python, JavaScript, SQL, Bash | Git, Node.js, MATLAB, AWS | Unix Environment

Interests: Cybersecurity, Software Development, Computational Modeling, Data Science, Number Theory