Emiliano Fernández Cervantes

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PROFESSIONAL PROFILE

- Fulbright scholar and engineer passionate about developing hardware and software solutions to improve people's lives.

EDUCATION

- **M.S. in Computer Engineering**
  University of Southern California
  August 2025 - Present
- **B.S. in Biomedical Engineering**
  Tecnológico de Monterrey at Mexico City
  August 2016 - December 2020
- **Biomedical Engineering Exchange Program**
  University of North Texas
  August - December 2019

AWARDS & RECOGNITIONS

- **Viterbi Endowment Scholarship (2025-2027)**
  Full-tuition merit-based scholarship.
- **Fulbright Grant (2024)**
  Grant to pursue graduate studies in the United States.
- **Graduated with Honors and Top of the Class (2020)**
  Highest GPA in the B.S. in Biomedical Engineering.
- **Academic Distinction Scholarship (2016-2020)**
  70% tuition merit-based scholarship.

STARTUP PROJECTS

- **Rivalry**
  Launched an IOS/Android app using the Flutter framework to manage football flag leagues in Mexico.
  March 2021 - June 2022
- **NurseCare MX**
  Developed a digital platform to facilitate caregiver services between patients and nurses.
  April – September 2021

SKILLS

- **Programming Languages**
  C/C++, Python, Verilog, CUDA, Bash, VBA, Dart.
- **Software & Tools**
  Linux (Debian based), Modelsim, Cadence Virtuoso, Atmel Studio, Docker, Git (Github), Proteus, Ultimaker Cura, MATLAB, Arduino, Solidworks, LaTeX, Flutter.
- **Languages**
  Spanish (native language), English (C1 level).
- **Soft Skills**
  Team leadership, problem solving, self-learning, creativity, critical thinking.

WORK EXPERIENCE

- **Sr. Project Support Coordinator - PPD, Part of Thermo Fisher Scientific**
  Led teams that deliver administrative support to pharmaceutical clinical trials, ensuring regulatory compliance and audit readiness.

  Co-led the development of an Excel tool using VBA macros to automate access reconciliation across systems, leading to substantial time savings and reducing regulatory risks in hundreds of clinical studies.
  May 2021 - Aug 2025

ACADEMIC PUBLICATIONS

- **Fall Risk Assessment Research Article**
  Fernandez, E., Montesinos, L., Gonzalez, A., & Pecchia, L. (2023). Recurrence quantification analysis of center of pressure trajectories for balance and fall-risk assessment in young and older adults. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 31, 926–935. https://doi.org/10.1109/tnsre.2023.3236454

ENGINEERING PROJECTS

- **ARM-Compatible smart NIC with GPU**
  Currently developing an ARM-compatible Smart Network Interface Card (NIC) with integrated GPU acceleration for optimizing data throughput and computational offload (Github).
  January 2026 - Present
- **Pipelined MAC Unit**
  Designed, optimized, and performed full custom layout of a high-performance pipelined 16-bit Multiply-Accumulate (MAC) unit using Cadence Virtuoso.
  December 2025
- **Local AI Server**
  Created a local AI inference server, leveraging an NVIDIA GPU with Ollama models and OpenWebui to accelerate AI workloads. Currently integrating a Discord bot for secure, private document querying.
  September 2024 - Present
- **Home Server and Mesh Network**
  Deployed a Debian-based home server for a Network-Attached Storage (NAS), home automation hub, a reverse proxy, a media server, and DNS filter/resolver using Docker. Implemented a mesh network to enhance home connectivity.
  December 2023-August 2024
- **Customized 3D Printer**
  Assembled and modified an Ender 3, updating the motherboard and compiling Marlin firmware to manage the modifications. A Raspberry Pi running Octoprint was used to control the printer remotely.
  December 2020
- **Bluetooth Electronic Lock**
  Developed a Bluetooth-controlled lock using an ATmega16 microcontroller programmed in assembly.
  May 2020