Emiliano Fernández Cervantes

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PROFESSIONAL PROFILE

- Computer Engineering M.S. student specializing in computer architecture and high-performance networking. Eager to apply project experience in hardware design, automation, and network systems to contribute to the development of scalable infrastructure.

EDUCATION

- **M.S. in Computer Engineering**
  University of Southern California
  August 2025 - May 2027
- **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**
  Full-tuition merit-based scholarship.
  2025-2027
- **Fulbright Grant**
  Grant to pursue graduate studies in the United States.
  2024
- **Graduated with Honors and Top of the Class**
  Highest GPA in the B.S. in Biomedical Engineering.
  2020
- **Academic Distinction Scholarship**
  70% tuition merit-based scholarship.
  2016-2020

SKILLS

- **Programming Languages**
  Python, C/C++, Verilog, CUDA, Bash, Dart, VBA.
- **Software & Tools**
  Linux (Debian, Fedora/CentOS), Docker, OpenWRT, Git, PyTorch, Jupyter, Modelsim, Cadence Virtuoso, MATLAB, LaTeX.
- **Networking**
  TCP/IP, DNS, DHCP, LAN/WAN, Firewall Configuration.
- **Languages**
  Spanish (native), English (C1 level).

ENGINEERING PROJECTS

- **ARM-Compatible Smart NIC with GPU**
  Developing an ARM-based SmartNIC with GPU acceleration for high-throughput, low-latency network processing (Github).
  January 2026 - Present
- **Pipelined MAC Unit**
  Designed and optimized a full-custom 16-bit pipelined MAC unit in Cadence Virtuoso, completing schematic design, transistor-level simulations, and DRC/LVS layout verification.
  November 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 in Python for secure, private document querying.
  September 2024 - Present
- **Home Lab & Network**
  Deployed a Debian-based home server for NAS, home automation, and DNS filtering using Docker. Designed and implemented a reverse proxy enabling SSL and WebSocket support for secure routing. Managed advanced routing, firewall, and network services using OpenWRT.
  December 2023-August 2024

ACADEMIC PUBLICATIONS

- **Fall Risk Assessment Research Article**
  Fernandez, E. et al. (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

WORK EXPERIENCE

- **Sr. Project Support Coordinator PPD, Thermo Fisher Scientific**
  - Co-developed and deployed a VBA-based tool to automate access reconciliation across multiple systems, creating company-wide time savings and reducing compliance risks for hundreds of projects.
  - Led support teams, managed timelines, developed technical training materials, and coordinated with management to ensure process adherence and quality across a large portfolio of client projects.

  May 2021 - Aug 2025