Emilio A. Magaña

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EDUCATION

Bachelor of Science in Electrical and Computer Engineering　　　　　　Graduated June 2021

Oregon State University (OSU)
- ❖ USA-GPA: 3.52/4.0, **DE-GPA: 1.63 (Gut)**.
- ❖ **Computer Science Minor.**
- ❖ *Related Coursework:* Digital Logic Design, VLSI, CMOS, Computer Architecture, Data Structures.

EXPERIENCE

Product Engineer　　　　　　Oct. 2021 - Jan. 2024

Lattice Semiconductor | Hillsboro, OR | Python, SystemVerilog, R, Electrical Lab Equipment
- ❖ Main role consisted of validating and characterizing IP.
  - ➤ Wrote documentation of methodology for both validation and characterization.
  - ➤ Worked closely with all aspects of FPGA IP's, mainly on: I/O, PLL, OSC and partly on BSCAN/JTAG.
  - ➤ **Developed behavioral patterns** through our in-house design software.
  - ➤ **In charge of** bring-up, maintenance, and **automatization of benches**.
  - ➤ Created statistical visuals between specification and performance of IP.
- ❖ Worked with customer issues/JIRA (internal and external) in providing solutions and data.

Teacher's Assistant/Head TA　　　　　　Jan. 2019 - Mar. 2019

OSU, Electrical and Computer Engineering Department | Corvallis, OR
- ❖ Coordinated lab sessions for ECE 112: Introduction to Electrical and Computer Engineering.

PROJECTS

Portfolio Website

Personal | TypeScript, React.js, Next.js, TailwindCSS, Git
- ❖ **Designed** a personal website **using Next.js** to self-introduce and be a root to all socials and future projects.
  - ➤ **Developed a RAG Chatbot using OpenAI** as its model provider**, Astra DB** for embeddings, and **Upstash Redis** for caching.
- ❖ Deployed using Vercel for developing serverless functionality when handling api calls.

Wild Oasis

Personal | TypeScript, React.js, Supabase, TanStack, React Router, styled-components, Vite
- ❖ Designed a property booking website to act as an AirBnb clone, for authenticated users managing lodgings, guests, and bookings of property.
- ❖ **Utilized Supabase** for managing all user and booking information.
- ❖ Deployed using Netlify.

High Voltage Peripherals

Capstone | Eagle CAD, LTspice
- ❖ Capstone Project was done with the Global Formula Racing (GFR) Team at OSU, a International Formula Student team in conjunction with DHBW Ravensburg, as part of the ePowertrain sub-team.
- ❖ **Designed and Functionally tested** the **Direct Current Link** (DCL) and **Brake System Plausibility Device** (BSPD) for both Formula Student and Formula Society of Automotive Engineers 2021 Competitions.
  - ➤ Under Formula Student rules:
    - ■ The DCL discharged the vehicle's current **2627% faster** than the allotted maximum given time.
    - ■ The BSPD **rebooted the car 11.6s** after no implausibility being present (reboot must be > 10s).
  - ➤ Under Formula Society of Automotive Engineers rules:
    - ■ The DCL discharged the vehicle's current **50% faster** than the allotted maximum given time.
    - ■ The BSPD was not to be used.

TECHNICAL SKILLS

Languages: TypeScript, Python, CSS, SystemVerilog, R, Go
Frameworks/Libraries: React.js, Next.js, Node.js, TailwindCSS, TanStack, React Router, styled-components
Tools: Vite, Git, Supabase, Electrical Lab Equipment, Eagle CAD, LTspice, Cadence
Conversational Languages: Spanish (Fluent, Oregon Seal Of Biliteracy, C1), German (Conversational)