Diego Ciudad Real Escalante

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Education

University of Toronto Class of 2026 Bachelor of Applied Science in Electrical Engineering.
GPA: 3.06 *Minor in Artificial Intelligence*

Relevant Courses

Digital Systems, Programming in C/C++, Operating Systems, Probability, Algorithms and Data Structures, Engineering Economics, Computer Organization, Software Communication and Design, Signals and Systems.

Skills & Interests

Hard Skills: Linux, Bash, C/C++, Python, Git, Docker, Python, Embedded Systems, Altium, Algorithm Optimization

Soft Skills: Communication, Research, Organization, Teamwork, Adaptability, Problem Solving, Conflict Resolution.

Interests: Open Source Software, FPGA Design, System Administration, Artificial Intelligence, Operating Systems.

Experience

University of Toronto May. 2024 – Aug. 2024
Summer Research Fellow *Toronto, ON*

- Researched and sourced industry-grade components for redesigning a power IGBT driver board, optimizing part selection with Altium and phasing out obsolete components for a more efficient, modern design.
- Led workshops for 30+ second-year engineering students, teaching essential skills in CAD design, microprocessor programming, and advanced circuit prototyping.
- Revised and updated lab manuals for four courses by thoroughly reviewing technical documentation for electrical engineering lab equipment, ensuring clarity and accuracy for oscilloscopes, function generators, multimeters, and more.

Nimbus Digital Transformations Jul. 2023 – Aug. 2023
Web Developer *San Salvador, ELSL*

- Developed and integrated Create, Read, and Update operations for seamless data management in an Amazon Web Services (AWS) backend.
- Designed and implemented dynamic, responsive HTML/CSS components in Figma, ensuring smooth adaptability across devices and screen sizes.
- Collaborated in weekly Agile sprints, consistently presenting progress on AWS integration, React development, responsive design, and version control with Git.

University of Toronto Open Source Society (UTOSS) Sep. 2024 – Present
Member *Toronto, ON*

- Contributed to Firefox development by fixing two bugs, enhancing browser functionality.
- Assisted fellow members in setting up development environments for Firefox, discussing cross-platform setup differences and operating system-specific requirements.
- Helped maintain a progress-tracking system using Google Sheets to monitor member contributions and project milestones.
- Currently developing a custom Firefox extension to further contribute to the open-source community.

Projects

unfairUndyne Feb. 2024 – Apr. 2024
Check it out here: https://github.com/DCR194/unfairUndyne

- Engineered drivers to support 60fps animations and 8KHz audio on a 120MHz soft processor, optimizing performance.
- Coordinated with teammates using Git and best coding practices, maintaining a clean, modular codebase.
- Developed a detailed project plan for structuring game assets, logic, and workflow, delegating tasks and managing timelines for a polished final product.
- Authored thorough, consistent documentation for all major functions in the finalized code directory to ensure clarity and future maintainability.

SuperStar GIS Jan. 2024 – Apr. 2024

- Processed OpenStreetMap data in C++ and built a fully functional Geographic Information System (GIS) with interactive data visualization.
- Integrated real-time weather updates using WeatherAPI, displaying visibility conditions for specific cities.
- Enhanced pathfinding algorithms to deliver optimized solutions to the traveling salesman problem, boosting efficiency.
- Leveraged the GTK graphics library and styled the application with CSS to develop a responsive, user-friendly interface for smooth interaction and visual consistency.

Home Server Jul. 2024 – Present

- Configured a VPN and port forwarding to enable secure remote access to the server from any location.
- Hosted a Debian-based system accessible remotely via Secure Shell (SSH) or Virtual Network Computing (VNC) for efficient system management.
- Deployed and maintained a DNS sinkhole using Pi-hole to block advertisements across the entire home network.
- Refurbished older hardware to create a high-performance, cost-effective home lab, reducing electricity costs to just $2.18/month.