Jorge Rangel de la Tejera

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EDUCATION

Carleton University Ottawa, ON Graduation: May 2028

Bachelor of Science in Biomedical and Electrical Engineering, Co-op Option

- Focus Areas: Electronic circuits | Embedded systems

SKILLS

- **Programming & Development:** Python, C/C++, Java, JavaScript/TypeScript, React, Node.js, SQL, HTML/CSS, Git/GitHub, Agile (Scrum, Jira)
- **Embedded & Digital Systems:** Microcontrollers (Arduino, STM32, PLCs), VHDL/Verilog, sensor integration, real-time control systems
- **Circuit & PCB Design:** DC/AC analysis, filters, impedance matching, schematic capture, PCB layout & assembly, soldering, troubleshooting
- **Simulation & Tools:** SPICE (LTSpice, Multisim), MATLAB, ADS/Cadence, AutoCAD, SolidWorks
- **Lab Equipment:** Oscilloscopes, multimeters, function generators, power supplies, spectrum/network analyzers
- **Other:** Technical documentation, lab reports, Agile collaboration, project coordination

Work Experience

Director of Electronics May 2025 - Present

Biomedical Carleton Applied Research and Engineering Team (BioCARE)

- Led the design and integration of electronic systems for biomedical prototypes, managing a multidisciplinary engineering team.
- Designed, tested, and documented PCB layouts, embedded controllers, and sensor systems for real-world applications.
- Collaborated with software developers to integrate hardware with Python- and C++-based control systems.
- Produced detailed technical documentation and reports for regulatory and project review.

Computer Lab Support May 2025 – August 2025

Faculty of Engineering and Design - Carleton University

- Provided technical support to students and faculty, troubleshooting hardware, software, and network issues.
- Maintained and configured lab equipment, ensuring reliable access to engineering software and tools.
- Assisted in installing and updating operating systems, drivers, and specialized applications.
- Documented recurring issues and collaborated with IT staff to implement long-term solutions.

Software & Web Development Projects — Independent & Academic

Freelance & Academic

- Developed data-driven web applications using React, Next.js, Node.js, and TypeScript, integrating RESTful APIs.
- Built full-stack features, including front-end UI and back-end logic, applying Agile methodology with Jira.
- Deployed code to GitHub with CI/CD workflows; implemented automated testing with Jest and Mocha.
- Designed visualization dashboards for experimental data using Python, SQL, and matplotlib/pandas.