

MARCELO PONCE ARDON (they/them)

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HIGHLIGHT OF QUALIFICATIONS

- **Full-stack developer** specializing in TypeScript/Next.js and Python, demonstrated by building Wikigraph3D—an interactive 3D Wikipedia visualization rendering 500+ nodes with optimized performance.
- **Experienced in machine learning pipelines**, shown by developing a 5-stage PyTorch workflow using HuggingFace Transformers for automated Brazilian Jiu-Jitsu match scoring.
- **Proficient in scalable backend architecture**, evidenced by co-leading a team of 7 to build a RESTful API using Go, PostgreSQL, Redis caching, and CI/CD automation.
- **Passionate about knowledge transfer and security**, as shown by running a competitive CTF event teaching 20+ students about vulnerabilities, exploitation techniques, and Kali Linux tooling.
- **Practical IT operations experience** implementing security solutions, including organization-wide Bitwarden 2FA deployment and anti-virus rollout across 14+ devices.
- **Collaborated in Agile development environments**, through sprint-based planning, code reviews, and ticket-driven development across many multi-person software projects.

EDUCATION

Honours Bachelor of Science (HBSc) in Computer Science ◇ University of Toronto

June 2025

Relevant Coursework: Software Engineering, Programming on the Web, Scalable Computing, Parallel Programming, Computer Security, Neural Networks & Deep Learning, Algorithm Design, Analysis & Complexity

PROJECTS

Wikigraph3d ◇ Next.js, Typescript, Tailwind CSS

Aug. 2025 – Present

- Built an interactive 3D graph visualization of Wikipedia articles using react-force-graph-3d, enabling spatial exploration of up to 500 interconnected article-nodes.
- Configured automated code quality tooling including TypeScript strict mode, ESLint, Prettier, and Husky pre-commit hooks to enforce type safety and maintain consistent code standards.
- Implemented dynamic, cached graph expansion where clicking article links creates new nodes and edges, visualizing the web of related content in real-time.
- Optimized rendering performance by caching sprites to prevent unnecessary re-renders during node highlighting.
- Integrated Wikipedia API to fetch and render article content dynamically as users navigate the app.

CTF427 ◇ VirtualBox, Docker, CTFd, Kali Linux

Jan. 2025 – March 2025

- Ran a competitive Capture the Flag (CTF) event designed to teach students about common security vulnerabilities, exploit techniques and challenges (SQLi, Cryptography, Vulnerable Executables, Forensics).
- Built a vulnerable site which contained the 4 main challenges, used the CTFd platform to host the event with scoreboard, hints and solution walkthroughs.
- Taught students how to use Kali Linux tools (sqlmap, steghide, gdb, ghidra), alongside Linux tools for challenges.
- Hosted the two web applications via Docker containers on a VirtualBox VM.

jiu-jitsu-autoscoring ◇ Python, Jupyter, PyTorch, Transformers

Jan. 2025 – Present

- Developing a 5-step pipeline of machine learning models to automatically score Brazilian Jiu-Jitsu match videos.
- Utilizing PyTorch and HuggingFace Transformers to fine-tune pre-trained models for person detection, pose estimation and classification on a dataset of annotated BJJ matches.

Opalescence ◇ GoLang, PostgreSQL, Redis, Google OAuth2.0.

Jan. 2024 – April 2024

- Co-led a team of 7 to design and build a web-based sharable note-taking application, overseeing backend development.
- Implemented a RESTful API using GoLang (GinGonic) and PostgreSQL (GORM), with hosted Redis for caching.
- Integrated GitHub Actions for CI/CD, Google OAuth2.0 for user authentication.

EXPERIENCE

IT Administrative Support ◇ CANVAS Programs

Sept. 2025 – Present

- Provided IT administrative support for a 14+ person organization, managing user account provisioning and deprovisioning, access controls, and security protocols.
- Deployed security solutions organization-wide including Bitwarden password manager with 2FA and anti-virus software across all devices.
- Designed and implemented role-based access control policies, ensuring staff members had appropriate permissions for software and systems.
- Performed daily troubleshooting for hardware and software issues, minimizing downtime for staff operations.

Barista ◇ Claudia's Coffee

March 2023 – Present

- Prepared custom espresso drinks and specialty seasonal beverages in a fast paced environment, making up to 45 drinks per hour.
- Opening and closing independently of supervision, cash handling, ordering inventory, arming alarms.
- Developed relationships with customers, connecting management with local businesses.

SKILLS

Programming Languages: C/C++, Bash, Python, TypeScript/JavaScript, Java, GoLang, C#, SQL, HTML/CSS

Frameworks & Libraries: Next.js, Node.js, React, scikit-learn, Pandas, NumPy

Tools & Technologies: Docker, Git, GitHub, LaTeX, gdb, Jupyter

Databases: PostgreSQL, MySQL, SQLite, Cassandra, Redis

CI/CD: GitHub Actions

Cloud & Platforms: Amazon Web Services (AWS), Linux

Methodologies: Agile Development, Scrum, Automated Testing

Soft Skills: Problem-Solving, Team Collaboration, Technical Communication, Client Coordination, Adaptability

LANGUAGES

English (Advanced), Spanish (Fluent)