

# NICHOLAS BONELLO

BSc. Specialized Honours Computer Science

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## EDUCATION

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York University – BSc. Specialized Honours Computer Science | *Toronto, ON*      **Apr 2026 (Expected)**

- **Relevant Coursework:** Communication Networks, Operating System Fundamentals, Computer Organization, Net-centric Introduction to Computing, Introduction to Database Systems, Mobile Communications, Software Design.

## EXPERIENCE

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Systems Technician – [Btek Energy](#) | *Toronto, ON – Contract Work*      **Sept 2020 – Present**

- Conduct reverse-engineering on discontinued wind turbine infrastructure, analyzing a repository of software dumps, hardware schematics, and BOMs to devise repair strategies for undocumented failures.
- Execute component-level repairs, micro-soldering, and general maintenance across both hardware and software layers, restoring power generation capabilities to turbines while minimizing replacement costs.

Software Developer – [Lyte Interactive](#) | *Remote – Contract Work*      **Feb 2021 – Present**

- Contribute to high-availability backend systems which support up to 100,000+ concurrent users, developing scripts to optimize asset delivery to ensure service stability under extreme load.
- Diagnose and resolve performance bottlenecks by optimizing client-side and server synchronization logic, reducing latency and streamlining development workflows.
- Collaborate within an Agile environment, adhering to strict workflows and documentation standards to ensure consistent content delivery.

## CURRENT & PAST PROJECTS

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### Technical Blog ([nick-eb.dev](https://nick-eb.dev))

- Conducting independent security research to understand the mechanics behind hypervisor detection vectors and kernel-level heuristics, applying this knowledge to harden KVM environments against fingerprinting for purposes like secure malware analysis.
- Authored in-depth technical documentation focused on Linux virtualization and administration, publishing guides on deploying secure, remotely-accessible workstations and configuring hardened virtual machines.

### Myrient-Downloader-GUI ([GitHub](#))

- Engineered a cross-platform download manager (Python/Tkinter) to interface with a web service lacking public APIs, implementing local JSON caching to minimize network overhead and automating file decryption for end-users.
- Implemented automatic dependency management to ensure seamless usage across different OS environments, prioritizing a ‘zero-configuration’ experience for end-users.

### University Database Project (Team Lead) ([GitHub](#))

- Led a 4-person team in the full-stack development of a relational database system within an Agile environment, architecting the SQL schema and managing Git workflows to implement the Java front-end and back-end.

## SKILLS

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- **Core Competencies:** Software Development, Advanced Linux & Windows Administration, Virtualization (KVM/QEMU), Reverse Engineering, Network Setup & Troubleshooting (TCP/IP), Hardware Diagnostics.
- **Languages & Scripting:** Python, Bash, C/C++, Java, Lua, C#, SQL, Kotlin, Swift.
- **Tools & Technologies:** Git, Docker/Portainer, VSCode, React, NumPy, REST APIs, Android Studio.