Angel Ouellet
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Passionate hardware reverse-engineer and avid research enthusiast specializing in embedded systems. Seeking opportunities within a cutting-edge organization that fosters an inclusive culture. With over 10 years of experience from reverse engineering to server administration and software engineering, and as an active member of the local security community, I am eager to bring my diverse skill set to your team.

Work History

Network Systems Integration Developer

Beanfield Metroconnect   2021/10 – Present

- Leads security analyses of new and legacy equipment, from detection through mitigation and until full remediation. Identified multiple critical issues in a deployed, on-backbone device including authentication bypass leading to full administrative control. Discovered major vulnerability in physical access control system which allowed undetected access to corporate and production systems.
- Spearheads development of infrastructure automation, minimizing human error and rapidly accelerating delivery of both products and services. Automated provisioning of end-user network equipment, eliminating technician on-site waiting time and allowing for more customer deployments per day.
- Acts as embedded security liaison to the Network/Engineering organization, providing guidance and feedback during development and implementation.
- Champions the safe adoption of open-source technology and contributions within the company, leading by example through work with LibreNMS, Oxidized, etc.

Lead Software Developer

AYE3D   2019/05 – 2021/10

- Served as lead software developer, designing the software roadmap and mentoring small team of 3 developers.
- Presided over the modernization and refactoring of a C# code base, enabling new features to once more be deployed.
- Led the re-implementation of a complex driver into Object Oriented C++, eliminating a significant source of crashes and improving performance.
- Conceptualized and implemented a custom update process for devices, ensuring secure and reliable upgrades, eliminating the need for technicians to physically service deployed devices.
- Orchestrated the deployment of new IT infrastructure, including secure remote access to corporate resources.

Electronics Repair Technician

Electro-Techno   2019/02 – 2019/10

- Reverse-engineered and repaired damaged or malfunctioning industrial control systems, including legacy systems where no documentation or support exists.
- Sole developer debugging software and operating system problems, including MS-DOS, Linux, and Windows Embedded systems.
- Authored custom software package and enabling a new repair revenue stream through automated recalibration and restoration of a human/machine interface for a nationally regulated transportation company.

Skills

- **Languages:** English (Native, ILR: 5/CEFR: C2), French (Native, ILR: 5/CEFR: C2)
- **Hardware:** DEP (Electronic Repair), EAGLE, Fusion 360, Hand Microsoldering (≥ 0603 [metric]), KiCAD
- **Operating Systems:** BSD, Linux, Mac OS, Windows, Windows Embedded
- **Programming Languages:** Bash, C, C#, C++, Embedded C, Java, LabVIEW, PHP, Python, VB.NET, x86 Assembly
- **Selected Tools:** Angr, GDB, Ghidra, IDA Pro, Metasploit, Nmap, Wireshark

Competitions

NorthSec

- Core member of the Skiddies-as-a-Service NorthSec team, focusing on reverse-engineering and embedded challenges at world's largest capture-the-flag hacking competition.
- Top Placements: 3rd (of 80) in 2021, 4th (of 80) in 2022, 4th (of 78) in 2020.

REcon

- Won the Red Balloon BGA re-balling competition at REcon 2022.

Volunteering

Soldering Village

- Trains and supervises a group of instructors teaching soldering at Montréal-based technology conferences, including Hackfest (2018–2019) and NorthSec (2019–Present).
- Has taught both through-hole and SMT soldering to hundreds of students, with subordinate instructors teaching thousands.

YOTA (art collective)

- Founding member of the art collective, lead of the infrastructure and security team
- Designed and supervised volunteer installation of a multi-floor access control system and network, including alarm/telecom wiring
- Created and maintains organizational IT infrastructure, including self-hosted productivity and collaboration tools
- Organizes, manages volunteers, and performs set-up/strike of performance events