Joe Jaison T

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EDUCATION

Electrical Engineering and Computing Technology
University of Ottawa, Ottawa, Ontario, Canada   September 2023 – Present (expected 2028)
Clubs and societies: uORocketry, uOFPGA

Computer Systems Technician - Networking
Centennial College, Toronto, Ontario, Canada.   September 2019 – April 2021
Clubs and societies: Toastmasters International

SUMMARY OF SKILLS

Embedded Systems & Hardware Design
- Designed and optimized circuit schematics, BOMs, and multilayer PCB layouts using Altium Designer and KiCad.
- Manufactured custom PCBs with SMD and through-hole components using advanced soldering techniques (hot air rework, precision iron soldering).
- Programmed microcontrollers in Rust and C/C++, via JTAG using Segger Jlink.
- Experienced with STM32CubeIDE for development, as well as workflows using probe-rs and OpenOCD in Arch Linux environments.
- Extensive experience with STM32 (ST) and ATSAME51 (Atmel) series microcontrollers.

Electronics Testing & Validation
- Performed functional and continuity testing on custom PCBs using multimeters, oscilloscopes, and analyzers.
- Validated signal integrity and electrical performance of high-speed traces in multilayer designs.
- Conducted circuit simulations using LTSpice for pre-layout analysis and troubleshooting.
- Performed electromagnetic interference (EMI) checks and field analysis using ANSYS tools to ensure compliance with design standards.

Avionics & Leadership
- Leading the Avionics Hardware Sub-team at uORocketry, University of Ottawa—managing development cycles, mentoring team members, and ensuring flight system readiness.
- Familiar with Agile methodologies and SCRUM frameworks for managing collaborative engineering projects.
- Experienced in setting timelines, tracking progress, and managing tasks with tools like Planner and Trello.
- Documented technical specifications, design procedures, and test results for internal reviews and compliance.
- Ensured adherence to aerospace safety standards in hardware design and manufacturing.
- Proficient with Arduino, Raspberry Pi, and headless SBCs for prototyping and deployment.

Networking & Telecommunications
- Designed network infrastructure and configured enterprise-grade FTP, DNS, and DHCP servers.
- Delivered technical support as a Field Technician at Bell, troubleshooting fiber, DSL, and home phone networks.
- Hands-on experience with fiber splicing and low-voltage systems including DSL, Ethernet, and PON.
- Simulated complex network environments using Cisco Packet Tracer.
- Trained in CCNA networking concepts including VLANs, subnetting, routing protocols, and network security, with practical experience configuring routers and switches in simulated environments.
- Managed over five GSM/4G/5G telecom projects, focusing on compliance and operational efficiency.

Cybersecurity & Monitoring
- Applied cybersecurity principles in lab-based distributed systems using network firewalls and penetration testing tools.
- Proficient with Wireshark, Nmap, Aircrack-ng, and Metasploit for traffic analysis and vulnerability assessment.

Software Development & Programming
- Skilled in Java, Python, GoLang, Rust, C/C++, Scheme, Prolog, Kotlin, and Verilog.
- Developed web applications using HTML, CSS, TypeScript, and Flask.
- Experienced in Git, GitHub Actions, and automation for CI/CD pipelines.
- Proficient in command-line tools and system administration on both Windows and Linux platforms.

Productivity and Documentation
- Proficient with Microsoft Office Suite including Word, Excel, PowerPoint, Power Bi and Outlook for documentation, data analysis, reporting, and presentations.
- Experienced in using Excel for data auditing, pivot tables, and basic automation with formulas and macros.
- Comfortable with digital collaboration tools such as OneDrive, Teams, and SharePoint for file management and team communication.

Tools & Other Technical Proficiencies
- Conducted FPGA development and simulation using Altera Cyclone IV, with Verilog and Block Diagram Files (BDF).
- Competent with SolidWorks and TinkerCAD for 3D design and modeling.
- Completed CCNA and CompTIA A+ training, strengthening foundational networking and hardware knowledge.
- Familiar with user and access management in enterprise Windows/Linux environments.

Soft Skills & Communication
- Developed strong public speaking and presentation skills through Toastmasters International, delivering and receiving feedback on technical talks and impromptu speeches.
- Effective team collaborator and project communicator, experienced in cross-functional coordination and technical leadership.

Astronomy
- Strong understanding of celestial navigation, and sky observation.
- Skilled in operating and calibrating equatorial telescope mounts for precision alignment and observation.

PROJECTS

Centennial College, Toronto, ON   **January 2021 – April 2021**

Technician Project – Grade A+
- Networking Equipment Setup: Worked in a team to establish a robust and fully functional network environment by configuring routers, switches, and access points, ensuring high reliability and seamless performance.
- Server Configuration: Played a critical role in setting up and configuring servers for various functionalities, including FTP, DNS, HTTP/S, and DHCP, meeting project specifications.
- Network Topology Design: Contributed to designing a logical and efficient network topology to support optimal functionality and scalability using Cisco Packet Tracer for simulation and validation.
- Security Measures Implementation: Implemented network security measures, including configuring firewalls, applying access control protocols to safeguard data, and preventing unauthorized access.
- Communication Interfaces: Configured and tested communication ports (COM ports), VLAN, Ethernet and Wi-Fi for device connectivity and network communication.
- Team Collaboration: Leveraged strong team coordination to complete project deliverables efficiently, demonstrating effective communication and collaboration.

Centennial College, Toronto, ON   **January 2020 – April 2020**

ICET Workshop – Grade A
- Computer and Accessory Repair: Repaired and configured computers and accessories per appointment, maintaining meticulous documentation.
- School Equipment Servicing: Collaborated with a team to service and repair school equipment, ensuring functionality and minimizing downtime.
  - Guided Problem-Solving: Addressed technical issues with precision and efficiency, applying guidance and strategies from professors to prevent component damage.
  - Proficiency in Ticketing Systems: Utilized internal ticketing systems to track and manage repair tasks, ensuring timely resolution and clear communication.
  - Preventative Maintenance: Conducted routine system checks and cleaning to prevent overheating, software failure, and hardware degradation.
  - Customer Interaction: Provided status updates to users and demonstrated post-repair functionality, ensuring satisfaction and usability.

uORocketry – University of Ottawa's Rocketry Club, Ottawa, ON   **September 2023 - Present**

Electrical Engineer
- Proficiency in Altium Designer and KiCad: Designed and reviewed circuit schematics, generated BOM, PCB layouts, and routing to ensure optimal performance.
- Aerospace-Grade Component Selection: Conducted thorough research on DigiKey and Mouser to select high-quality components and materials for PCB manufacturing, ensuring compliance with industry standards and safety requirements.
- PCB Manufacturing: Manufactured PCBs using surface-mount (SMD) and through-hole components, employing tools such as a heat gun and soldering iron.
- Microcontroller Programming: Programmed and flashed onboard microcontrollers using Rust and Jlink probe with JTAG, ensuring system functionality.
- Leadership: Appointed as Avionics Hardware Sub-Team Lead, overseeing the design, development, and implementation of avionics systems while mentoring over five team members and ensuring project milestones were achieved.
- Cross-Team Collaboration: Coordinated with other sub teams to gather and integrate design requirements and restrictions, ensuring compatibility and seamless implementation across all systems.

Yupana Inc, Toronto, ON   **June 2022 – August 2023**

Site Technician/Auditor
- Base Band Unit Integration: Integrated Ericsson base band units and radios in cell sites for 4G/5G networks, following precise installation guidelines.
- Compliance and Supervision: Followed directions from site supervisors and adhered to company guidelines during telecommunication unit installations.
- Project Management: Managed GSM/4G/5G network projects, coordinating tasks, schedules, and resources to ensure successful deployment and operation.
- Data Auditing and processing: Recorded, reviewed, and interpreted audit data using Excel and Power Bi, to evaluate operational effectiveness and compliance.
- Special Projects: Managed additional duties and special projects to ensure efficient business operations and regulatory compliance.

Bell Canada, Toronto, ON   **August 2021 – May 2022**

Field Service Technician (Structured Cabling) - BTS
- Network Infrastructure Maintenance: Worked on network infrastructure, including Pure Fiber Internet, home phones, and DSL.
- Technical Support: Repaired, installed, and troubleshot network devices and infrastructure using proprietary software.
- Fiber Splicing and Verification: Spliced and verified fiber connections to ensure seamless connectivity and high-quality performance.
- Riser Technician Training: Trained as a riser technician, proficient in working at heights and handling fiber backbones.
- Technical Assistance: Assisted fellow technicians with technical difficulties and roadblocks, ensuring project success.
- Customer Service: Provided exceptional service to customers through positive communication, professional appearance, and conduct.
- Brand Representation: Actively supported the Bell brand by highlighting its benefits to customers, enhancing their satisfaction and loyalty.

CDI Technologies, Markham, ON   **May 2020 – June 2020**

Computer Technician
- System Repair and Configuration: Diagnosed, repaired, and configured computers for clients, ensuring that both hardware and software components met performance standards.
- Efficiency in Order Fulfillment: Consistently achieved daily targets for system repairs and configurations, ensuring timely project completion and delivery to clients.
- Team Collaboration: Partnered with over ten technicians and non-technical staff to enhance team efficiency, contributing to faster project completion and improved customer satisfaction.
- Proficiency with Tools: Utilized hand tools (e.g., screwdrivers, pliers) and power tools (e.g., drills, heat guns) to efficiently service, repair, and configure computers and hardware.
- Technical Expertise: Gained practical experience with a range of hardware and software tools, for system configuration.