Matthew Duke

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Practical and motivated junior engineer with a background in system integration and network infrastructure. Dedicated and motivated to learning new techniques and technologies and applying them to existing processes.

EDUCATION

QUEEN'S UNIVERSITY **Kingston, ON**

Bachelor of Applied Science in Engineering Physics (Mechanical Option) *Graduation May 2020*

PROFESSIONAL EXPERIENCE

HONEYWELL AEROSPACE **Kanata, ON**

Systems Integration and Test Engineer *May 2018 – August 2019*

- Developed and executed manual and automated test cases for satellite communications products using the Agile methodology (Jira, BitBucket)
- Implemented new testing infrastructure for lab-based simulation and performance analysis using vSphere and Docker containerization.
- Automated an existing configuration file generation process to reduce process time from 1-2 hours of manual work to 30 seconds.
- Acted as an owner for SI&T test systems, which included responsibilities such as maintenance and configuration of test hardware and networking devices.

BELL CANADA **Huntsville, ON**

Technician Advanced *May - September 2016 & 2017*

Diagnosed and repaired telecommunication (DSL and POTS) infrastructure for water access properties throughout Muskoka, Ontario, an environment that pushed the technology to its limits due aging infrastructure and extreme distances.

- Perfomed exhaustive root cause analysis based on technical test data, often in challenging and remote locations.
- Worked independently to manage and optimize daily workflow to improve customer service and productivity.

PROJECT EXPERIENCE

QUEEN'S SPACE ENGINEERING TEAM (QSET)

Payload Subsystem Manager *June 2019 – Present*

- Currently managing a team of students to prototype an Earth observation telescope for a 3U CubeSat for the Canadian Satellite Design Challenge (CSDC).
- Developed strong project management and organizational skills throughout this project, along with the ability to identify design weaknesses.

ENGINEERING PHYSICS THESIS

Acoustic Wave Simulation *September 2019 – Present*

- Worked over two semesters to perform software simulation of acoustic wave transmission through phononic crystals using finite difference time domain techniques.
- Developed comprehensive knowledge of and skillsets in a variety of engineering disciplines, including algorithm development, performance optimization, mechanical deformation, and project management.

ENGINEERING CAPSTONE

4-Axis Robotic Arm *September 2019 – December 2019*

- Worked in a team of students to design and build a board-game playing robotic arm coupled with software to interpret and respond to a human opponent.
- Personal contributions included the software and hardware control system, consisting of 3D physics simulations, motor driver software, and circuit board design.

TECHNICAL SKILLS

- Strong working knowledge of Windows and Linux operating systems
- Experience working with and managing teams in a technical capacity using tools such as Jira and Git.
- Worked with continuous integration tools such as BitBucket and Jenkins to automate build procedures and test development.
- Scripting and automation experience using Python, Shell/Bash, JavaScript, MATLAB, Julia, Robot Framework, QT5 GUI framework
- Extensive virtual machine and containerization experience using vSphere, Proxmox, Docker and LXC.
- Strong networking and internet communications background, including network, transport and application levels, routing, VLANS, and diagnostic tools such as Wireshark, and iPerf.