1-514-835-5198 | mei.q.tang@mail.mcgill.ca | Montreal, Qc, Canada
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Mei Qi Tang

EDUCATION

B. Eng. in Electrical Engineering, Minor in Aerospace Engineering Sep 2016 – May 2021
McGill University, Montreal, Canada

- 3.7 / 4.0 Cumulative GPA
- Hugo H. Langshur Scholarship in Engineering 2020 – 2021
  Awarded ($1,000) based on academic merit to undergraduate students enrolled in the Faculty of Engineering with preference given to those who are pursuing a Minor in Aerospace Engineering.
- Relevant courses: Embedded Systems, Numerical Methods, Microprocessors, Operating Systems

EXPERIENCE

Tesla, Inc., Palo Alto, USA (Remote Work) Aug 2020 - Present
Firmware Engineer Intern – Body Controls Team

- Implement power management and alert drivers for the NXP S32K microcontroller family, accelerating the transition of different electronic control units to new microcontroller platforms.
- Develop an automated tool to generate firmware driver configuration files, enabling a faster bringing up of firmware drivers on new controller boards by 5 times.

Microsoft Corporation, Redmond, USA
Software Engineer Intern – Azure IoT C SDK Team Jun – Aug 2020

- Added support for MQTT-SN, a new application layer protocol, to work over UDP and LoRaWAN, in the Microsoft Azure Internet of Things (IoT) Embedded C SDK, reducing the data usage of devices by 1.6 times in comparison to the classical MQTT over TCP.

Software Engineer Intern – Azure IoT UI Platforms Team Jun – Aug 2019

- Programmed a device emulator and a user interface in the Azure Portal to demonstrate a proof-of-concept for Over-the-Air updates on IoT devices via the Azure IoT Hub, which enabled the SDK and the cloud service teams to build and test their work in an integrated and end-to-end manner.

Explorer Intern – Universal Store Unified Portals and Experiences Team May – Aug 2018

- Developed a messaging user interface for communicating with customers over their feedback, doubling Microsoft Partner Center's customer engagement. Used data science tools like Power BI to monitor web page traffic and performance, facilitating data-driven metric analyses.

Ericsson Canada, Montreal, Canada Jan – May 2018
Software Developer Intern – DevOps and Automation Team

- Optimized the automation of software builds, reports, and tests through continuous integration and continuous delivery scripts and pipelines, reducing the automated software delivery time by 50%.

DESIGN TEAM

McGill Rocket Team, McGill University
Antenna and Communications Specialist Sep 2018 – Aug 2020

- Designed custom antennas that reduced the budget by 50% and an Avionics communications system that enabled a 15-times longer link than the previously underperforming design.

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- Directed unit and integration tests, which were presented as *Comprehensive Testing Procedures for Robust Avionics* at the 2019 Spaceport America Cup Podium Presentation Session.

Avionics Team Lead Sep 2018 – Aug 2019

- Managed timeline and budget for 14 projects in a team of 25+ active members. Directed design reviews and meetings with project leads to ensure quality and on-time delivery of the Avionics.
- Contacted and maintained relationships with 10+ advisors and sponsors.
- Prepared workshops to promote STEM at *Les Filles et Les Sciences*. Participated in outreach events to bring awareness of Canadian Rocketry at the *Montreal Space Symposium* and of engineering design teams at the *McGill Open House*.

PROJECTS

Long-Range Transmission System for Sounding Rockets, Capstone Design Project 2019 – 2020
Supervised by Professor Benoit Champagne, Statistical Signal Processing Lab, McGill University

- Designed and programmed a simulator for a beamforming and beamsteering phased array antenna capable of doubling the RF link performance as compared to single-element systems.

Avionics Communications System, McGill Rocket Team 2018 – 2020
Collaborated with the Broadband Communications Research Lab, McGill University

- Designed a double-redundant communication system of VHF, UHF, and satellite transceivers, which were integrated with other RF modules, including beacons and GPS receivers.
- Conducted near-field antenna pattern tests in an anechoic chamber and range tests outdoors.

Air-Written Digit Recognizer, Embedded Systems Class - Final Project 2020

- Designed and trained a neural network that recognizes digits drawn in the air with self-collected data from an accelerometer onboard a NI myRIO Embedded Device.

Autonomous Basketball Bot, Design Principles and Methods Class - Design Competition 2017

- In a team of 6, developed an autonomous ball-launcher robot capable of avoiding obstacles, localizing, and navigating, to compete against other teams in a basketball game.

SKILLS

Languages: C, Python, JavaScript, Java, C#, MATLAB, Bash, ARM Assembly, VHDL
Tools: Git, Wireshark, Ansys HFSS, Docker, Jenkins, React, NodeJS, FreeRTOS, NumPy
Platforms: S32K and STM32 Arm Cortex-M MCU, Raspberry Pi, Arduino, XBee and LoRa radios

CERTIFICATIONS

The Ladybird Guide to Spacecraft Communications, ESEC-Galaxia, Belgium Feb 2020
European Space Agency Academy

- Completed a week-long training course on spacecraft communications delivered by a senior ESA operations engineer and visited satellite ground stations and control rooms.
- Designed a communications system for a mission to Europa, which was tested against a live simulation with problems encountered during real-life missions.

Certificate of Proficiency in Amateur Radio - Basic Jun 2019
Innovation, Science and Economic Development Canada