+1 (514) 835-5198 | mei.q.tang@mail.mcgill.ca | Montreal, Qc, Canada
https://www.linkedin.com/in/meiqitang/ | https://meiiqi.github.io/

Mei Qi Tang

EDUCATION

B. Eng. in Electrical Engineering, Minor in Aerospace Engineering
McGill University, Montreal, Canada

- 3.7 / 4.0 Cumulative GPA
- Relevant courses: Embedded Systems, Numerical Methods, Microprocessors, Operating Systems

EXPERIENCE

Tesla, Inc., Remote Work — Aug 2020 - Present
Firmware Engineer Intern

- Implemented power management and alert drivers to be shared by multiple electronic control units for new microcontroller families like the NXP S32K, accelerating the transition to new MCUs.
- Developed a tool to auto-generate firmware driver configuration files, enabling a faster bring up of firmware drivers on new boards by 5 times.

Microsoft Corporation, Redmond, USA
Software Engineer Intern — Jun – Aug 2020

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

Software Engineer Intern — Jun – Aug 2019

- Programmed a device emulator that uses the Azure IoT C SDK and a User Interface in the Azure Portal to build a Proof-of-Concept end-to-end demonstration for Over-the-Air updates on IoT devices using the Azure IoT Hub, integrating the work of the SDK and the cloud service teams.

Explorer Intern — 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 to monitor web page traffic and performance, facilitating data-driven metric analyses.

Ericsson Canada, Montreal, Canada — Jan – May 2018
Software Developer Intern

- Optimized the automation of software builds, reports, and tests through Continuous Integration / 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 to reduce the budget by 50% and developed an Avionics communications system that enables a 15-times longer link than the previous design.
- Directed unit and integration tests. Presented on *Comprehensive Testing Procedures for Robust Avionics* at Intercollegiate Rocket Engineering Competition, Spaceport America Cup 2019.

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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 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 like 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 a neural network for recognizing digits drawn in the air, where the model has been trained with self-collected data using the accelerometer onboard the 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.

AWARDS

Hugo H. Langshur Scholarship in Engineering, McGill University 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.

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

- Selected amongst 30 students internationally to a week-long training course about spacecraft communications, delivered by a senior ESA operations engineer. Designed a communications system for a mission to Europa, which was tested against a live simulation with real-life problems.