ASIF AL NOOR

Systems Engineer
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SUMMARY

I am a systems engineer with over 5 years of experience in developing RF systems and avionics hardware for space and aviation applications.

SKILLS

- System design: End-to-end RF subsystem, Full-stack hardware subsystem, PCB design, JIRA.
- RF design: RF simulations, RF system architecture, Link budgets, Ground station, Antenna design.
- RF hardware: RFD900x, Iridium, Globalstar, Safran, Ublox GPS, JAVAD GPS, LimeSDR.
- RF software: CST, HFSS, ADS, COMSOL, MATLAB tools.
- Standards: IPC-610, IPC-620, AS50881G MIL-810, MIL- 883, MIL-3899, MIL-83513, MIL-24308.
- Electronics: Embedded design with ESP32, STM32.
- Programming: Python, C/C++, MATLAB, ROS 2, Cube IDE, Linux.
- PCB design: LT Spice, Altium, Circuit Studio, KiCAD.
- CAD prototyping: Solidworks, Solidworks electrical.
- Lab: Oscilloscope, signal generator, electrical load, network analyzer, logic analyser, SMD soldering

PROFESSIONAL HISTORY

UAV Systems Integration Engineer – Drone Delivery Canada, Toronto ON **May 2023 - present**

- Developed avionics system of to convert a lightweight helicopter into an unmanned aircraft.
- Implemented systems engineering practices such as developing requirements for ongoing projects.

Senior RF Engineer - SpaceRyde, Toronto ON **Sept 2021 - Feb 2023**

- Designed, assembled, integrated and tested the avionics system of a rocket including flight computers, GNC sensors, power management, data networking, RF communications on subsystem and component levels. Implemented necessary IPC and MIL-Spec standards for integration, test and acceptance.
- Architected and commissioned the end-to-end RF system to receive rocket telemetry using IRIG-106 standard. Scope of responsibilities also included the ground station implementation and operation using Safran's receiver and dish antenna.
- Produced systems requirements and derived requirements for developing avionics components.
- Spearheaded the development of functional and integration test procedures and campaigns to validate the avionics components, including MIL-STD-810.
- Designed, assembled and tested PCBs using Altium Circuit Studio incorporating STM32 MCU interfacing with flight critical components over i2C, CAN, RS232.
- Developed the enclosures of different subsystems using Solidworks.
- Integrated hardware for the electric propulsion system for a gondola of a stratospheric balloon, implementing T-motor's brushless motors, drives, and propellers.
- Interfaced with regulatory authority (ISED) regarding radio licensing for rocket telemetry spectrum licensing.

Intermediate RF Engineer - SMT Research, Vancouver BC **April 2020 - Aug 2021**

- Implemented a battery-less RF power harvesting wireless system for structural monitoring. Conducted antenna simulations using CST and HFSS, and developed wireless range simulator using MATLAB.
- Pioneered custom RFID passive sensor tags for remote data logging and pinpointing hidden sensor locations. Simulated the prototype circuit in LTSpice and designed the PCB using KiCAD. Conducted rigorous validations tests using test beds in lab environment as well as in active construction sites.
- Installed sensors and DAQs in active construction sites and provided technical support to technicians.
- Debugged and qualified PCB before sending out to customers. Implemented IPC-610 for PCB acceptance.
- Validated RF propagation through various roof assemblies using Lime-SDR radio.

RF Engineering Consultant - Direct Kinetic Solutions, Texas (Part-time, Remote) **July 2017 - May 2019**

- Produced custom CubeSat electrical and RF system concepts for clients and US DOD grant applications.

- Developed RF solutions for the US Army contract bids and wrote technical proposals. Successfully granted with 2 projects from the US Army.

Lead RF Engineer - Helios Wire, Vancouver BC **July 2017 - May 2019**

- Designed, simulated and deployed C, X and S-Band antennas for CubeSat TT&C communication.
- Conceptualized an IoT gateway to interface between Cubesat in space and IoT tags in the ground.
- Created and maintained invoices & POs, and also negotiated prices & terms of large-volume buying.
- Generated drawings, technical specifications, and internal research papers of designed antennas to present key findings to management.

EDUCATION & TRAINING

- MASc in EE - University of British Columbia, Kelowna BC Sept 2014 - Oct 2016
  Master Thesis: ”A broadband fixed-beam leaky-wave antenna based on transformation electromagnetics.”

- BSc in EEE - Islamic University of Technology, Bangladesh Jan 2010 - Oct 2013
  Activities: Led the university robotics team during the NASA Lunabotics Annual Competition 2013.

- IPC-A-610 Acceptability of Electronics Assemblies Sept 2020