CREAN
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GURSIMRAN SETHI

WIRELESS ENGINEERING LEADER

PROFILE

I bring deep expertise in Wireless Hardware and Systems Engineering, with a strong foundation in Antenna/RF design and fundamental Physics. With a proven track record in leading engineering teams and driving product roadmaps, I excel in both hands-on design and guiding innovation in wireless systems. My blend of technical design skills, Product Management experience, and business acumen make me well-suited for senior roles focused on engineering design, R&D, leadership and strategic product development.

WORK EXPERIENCE

Ultra Intelligence and Communications 03/2024 - 10/2024
Sr. Wireless Systems Designer - Product Management
Montreal, QC

IC role with direct reporting to the VP of Product and lateral reporting to the CTO.

Integrated lightweight L, S, and C-Band antennas and Software-Defined Radios (SDRs) into UAVs, achieving 25% SWaP reduction and 50% increased OPs range.

Designed electronically steerable sectored phased array antennas for naval vessels, enhancing communication reliability in harsh maritime conditions.

Developed propagation models for Over-the-Horizon Troposcatter links using ITU empirical models and battlespace spectrum management tools.

Created baseband-to-baseband link budgets and wireless system architecture for Troposcatter products.

Designed low-SWaP solutions: a 1m parabolic dish (<52 lbs, <100W total SWaP).

Led transition from C-Band to X-Band Troposcatter systems using 1.8m and 2.4m dishes, targeting 500 lbs and 1kW SWaP.

Conducted PoC performance testing on modems, SSPBs, filters, LNBs, and radio chain integration for optimal system efficiency.

• Participated in over-the-air testing and developed link budgets, optimizing Rate vs. Range performance for SATCOM and Tropo links.

LATYS Intelligence 08/2020 - 11/2023

CoFounder and VP of Engineering & Technology

Montreal, QC

Founder and hands-on contributor transitioned into a leadership role as LATYS grew.

Led cross-functional team of Antenna/RF Engineers, Technicians, and Embedded/SW Devs, overseeing Engineering and R&D execution.

Drove successful launch of Reconfigurable Intelligent Surface (RIS) Antennas from prototypes to volume PCB production, overseeing revisions in 100+ units.

Designed and tested active RIS (reflectarrays and transmitarrays) for 5.8 GHz Wi-Fi repeaters, achieving 12 dB OTA gain at 10% of traditional AP costs.

Antenna and RF design using CST/ADS sims to optimize performance.

Developed analog/digital beam steering algorithms, designing optimized RF circuits, using varactor diodes and OTS-IC phase shifters on PCB.

Developed an Angle-of-Arrival sensing module by implementing an I2C data bridge between the AoA SoC chip, PSAC (Power Supply and Control) and RIS.

Led the development of a Ray Tracing propagation modelling and adaptive GA optimization engine.

Created engineering roadmaps and a successful go-to-market strategy. Recruited and hired 10+ engineers, interns and 3 executives.

Raised $5M+ Venture Capital funding and $600k+ in non-dilutive grants. Actively participated in board strategy meetings.

PreScouter Inc. 07/2020 - PRESENT

Project Architect (Hi-Tech/Aerospace) and Wireless SME

Chicago, IL (Remote)

Part-time role in project management and technology consulting, driving strategic initiatives.

- Produced strategic and deeply technical landscapes across a wide range of disciplines to capture key insights into emerging trends & areas of opportunities.
- Led teams of 20 analysts in parallel to drive successful planning, execution, and delivery of 10+ projects within scope, schedule, & budget constraints.
- Applied Agile principles to project management, fostering adaptability and responsiveness to changing project requirements.

Analyze market penetration strategies and trends, produced competitive IP landscape analysis, identifying relevant strategic partners.

Serve as the primary technical contact for Fortune 500/Global 1000 clients. Managed project budgets ranging from $30k to $1M.

Drove sales to PreScouter through engagement with new clients and management of ongoing client relationships.

BLINQ Networks 03/2020 - 09/2020

Wireless Integration Engineer Toronto, ON

RF Hardware Integration Engineer - 5G Systems at Blinq Networks

Responsible for integrating Multi-user MIMO Beamforming Antenna Array System (AAS) with radio interface for Blinq's 5G base stations.

Tested Digital Beamforming code-books to optimize signal processing.

Evaluated RF transmit/receive chains (LNA, PA, Filters, Mixers, Oscillators) in Blinq's 5G products.

Supported Antenna/RF Hardware System Certification for 4G LTE and 5G NR. Conducted EMC/EMI emission tests to ensure compliance with performance standards.

Apple Inc. 10/2018 - 08/2019

RF/OTA Systems (Human Engineering) Intern Cupertino, CA

Human Engineering: Wi-Fi Throughput & Antenna Performance Testing

Developed novel Wi-Fi throughput testing methodology in a Non-Line of Sight Reverberation chamber; conducted Rate vs. Range studies.

Assessed body proximity effects on antenna radiation for wearables, iPhone and iPad in human engineering studies.

Created and executed OTA test plans to verify antenna designs, optimizing TRP, TIS, and SAR metrics for Apple products.

Performed specialized antenna tests in anechoic chambers (ETS) using commercial RF/OTA equipment (R&S, Anritsu: VNA/Spectrum Analyzers/Call-box).

Generated statistical performance reports (R, MATLAB, Python) for antenna analysis. Evaluated antenna performance against industry standards (LTE, Wi-Fi 802.11, Bluetooth).

Thales Alenia Space 09/2016 - 09/2018

Graduate Research Student

Toronto, ON

Collaborated with Thales-funded program in France to develop LEO tracking antenna array.

- Designed a 1000-element radially-fed K-Band leaky-wave phased array for ground stations and LEO satellite communication.
- Created a True-Time Delay (TTD) beam-steering mechanism with RF-MEMS switches for full- space 3D coverage.
- Executed advanced antenna EM simulations using ANSYS HFSS, COMSOL, and MATLAB. Modelled equivalent circuits and PCB design simulations in ADS.
- Conducted near-field measurements using the NSI-Near Field Scanner.

HKUST 09/2015 - 08/2016

Research Assistant

Hong Kong HKSAR

My first hands-on experience designing an antenna and RF circuit as part of my undergraduate thesis.

- Designed LC-based, frequency-agile, optically transparent wideband patch antenna at 10 GHz for integration with satellite solar cells.
- Performed Antenna simulations in CST and testing using Rhode & Schwartz Vector Network Analyzers (VNA), SATIMO Anechoic far-field Chamber.
- Optimized 16×16 Multiport Pixel Antenna using Genetic Algorithms for pixel configuration. Conducted 2.5D electromagnetic simulations using IE3D.

CERN (HK Atlas Group) 04/2014 - 04/2015

Researcher

Hong Kong HKS

Research Project with the CERN Large Hadron Collider (LHC): ATLAS Experiment