Mark Opfell

Exposure & Skills

RF Standards	FCC, ITU, DVB-S2, VITA49
Satellite Networks	KSAT Lite
Programming Languages	Python, VBA
HW Tools	SDR, VNA, Antenna Hats,
SW Tools	Pycharm, Git*, Bash, Vi, Excel (Wizard)
Mathematical Python Stack	NumPy, SciPy, Matplotlib, Pandas
Cloud	AWS, Azure
Significant Ascents	Mount Rainier, Mount Adams (solo)

Work Experience

Job Title **Lead Communication Systems Engineer**
Employer **Albedo** Remote
Period **October 2021 – Present**

Collaborating with mission systems and ground software architects to design space-to-ground communication systems capable of deliver 10 cm satellite imagery to anyone with an internet connection and a credit card.

Building consensus with the CEO and CTO for crucial technical solution and strategic business partnership choices.

Albedo raised seed funding in April 2021. 12th Employee.

Job Title **Senior RF Systems Engineer**
Employer **LeoStella** Tukwilla, WA
Period **April 2019 – October 2021**

Created technology roadmaps, architecture diagrams, link budgets, test plans, and ran hands-on troubleshooting. Collaborated with suppliers and customers to design, manufacture, test, and operate X, S, GPS, and UHF-band space software defined radios linked to ground stations enabled by AWS Ground Station product (global ground-station-as-a-service). Managing cost, schedule, risk, regulatory compliance, and SWaP to stand up Low-Earth orbit small satellite constellations including BlackSky, Loft Orbital, and NorthStar Earth & Space.

Designed, simulated, purchased, laid out, and validated: parts, mixed signal PCB, connectors, cabling, and enclosure for a GPS RF system self-compatibility filter. Successful in-orbit operation.

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Job Title	**RF Systems Engineer**	
Employer	**Kymeta**	Redmond, WA
Period	**February 2018 – March 2019**	

Wrote phased array antenna cross-polarization optimization algorithm in Python and integrated it with production level test codebase along with documentation, theoretical and actual response data.

Developed and executed over-the-air combined OSI application, transport, network, and physical layer level test cases for a mobile Azure cloud connected MIMO Ku-band terminal with software defined phased array flat panel antennas and a DVB-S2 satellite modem

Job Title	**RF Systems Software Engineer**	
Employer	**Space Systems/Loral**	Mountain View, CA
Period	**October 2016 – January 2018**	

Award wining role leading, developing, and managing a production Python client and services to exchange data between a PostgreSQL database storing 1 TB of antenna data and an RF downlink capacity tool.

Job Title	**Senior RF Systems Engineer**	
Employer	**Space Systems/Loral**	Mountain View, CA
Period	**March 2015 – October 2016**	

Lead successful Forward downlink payload re-design, deployment, launch, in-orbit test, and handover of geostationary communication satellite Echostar 21 operating the receive at Ka-band and transmit at S-band.

Job Title	**RF Systems Engineer**	
Employer	**Space Systems/Loral**	Mountain View, CA
Period	**September 2013 – March 2015**	

Job Title	**Associate RF Systems Engineer**	
Employer	**Space Systems/Loral**	Mountain View, CA
Period	**June 2012 – September 2013**	

Education

Degree	**Bachelor of Science in Electrical Engineering**
University	**University of California, Davis**
Period	**June 2009 – June 2012**

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