VELOX RESEARCH

PIPELINE HIRE, INTERVIEWING NOW

Senior RF / Radar Systems Engineer

LOCATION	Reston, VA, with time at customer and test sites
TYPE	Full time
CLEARANCE	Active Top Secret / SCI (U.S. citizenship required)
START	Target start 2027
EXPERIENCE	About ten years
EDUCATION	MS or PhD preferred

This role opens an RF and radar line of work at Velox alongside the EO/IR work we already do, starting with follow-on task orders on ARCTIC. You bring the applied radar and RF background; we bring the programs, the lab and the customers. We are interviewing now for a 2027 start.

RESPONSIBILITIES

- Own radar and RF system design from the link and radar range equations through the signal chain: waveform selection (LFM and phase-coded pulse compression, CW, FMCW), PRF and ambiguity trades, Doppler and MTI processing, CFAR detection, and hand-off to tracking.
- Design and analyze antennas and front ends: phased arrays and AESA beamforming, LNA, mixer and ADC chains, noise-figure and dynamic-range budgets, spurious and EMI/EMC control, frequency planning.
- Model before you build: MATLAB or Python signal chains, EM simulation (HFSS, CST or FEKO), detection-range and clutter modeling, propagation, and SAR/ISAR processing where a task calls for it.
- Build and test: VNA, spectrum and signal analyzers, signal generators, anechoic and antenna-range measurements, SDR prototypes (USRP, GNU Radio), FPGA or GPU processing, and open-air tests with instrumented ground truth.
- Deliver on task orders: requirements, ICDs, test plans and reports, technical volumes and customer briefs.
- Work across the house on RF and EO/IR cueing, time-space registration, and multi-sensor track fusion.

QUALIFICATIONS

- About ten years of applied RF and radar engineering on systems that were built, tested and delivered.
- MS or PhD in electrical engineering or physics preferred.
- Radar theory at the Skolnik and Richards level: matched filtering, ambiguity functions, Doppler processing, detection theory, STAP concepts.
- Microwave design fluency: S-parameters and matching, filters, mixers, LNAs and PAs, phase noise, ADC and DAC selection, direct-sampling receivers.
- Hands-on with VNAs, spectrum analyzers, signal generators and SDRs, and comfortable arranging spectrum coordination for a test.
- An active TS/SCI clearance.

PREFERRED

- EW receiver design (ES/EA/EP), passive RF and ESM, SIGINT front ends.
- mmWave (Ku through W band), MIMO radar, LPI waveform design, counter-UAS radar.
- FPGA (VHDL/Verilog) or CUDA signal processing; RF signal classification with ML.

TO APPLY

Email a résumé and a short note on what you want to work on to info@veloxresearch.com with the role in the subject line. Velox Research is an equal opportunity employer. No recruiters, please.

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