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|---|---|---|
| **Job Title** | | **Research Associate - RF Design Engineer** |
| **No. of Positions** | | **01** |
| **School/Institute/Centre** | | **SINES** |
| **1** | **Purpose of Position** | |
| | The RF Design Engineer shall be responsible to design the RF front-end of the radar system. | |
| **2** | **Functions/Duties (Key Responsibilities)** | |
| | RF Design Engineer should be able to:<br>• Design, Analyze and work with RF modules & sub-systems<br>• Design PCBs<br>• Stuff and test the designed modules<br>• Handle RF equipment<br>• Knowledge of precautions for handling RF components and equipment | |
| **3** | **Requirements** | |
| | **Essential** | **Desired** |
| **Qualifications** | Bachelors in Electronics/Electrical Engineering or relevant field with experience from HEC recognized institution | Master's degree in EE or relevant field with experience in RF & Microwave |
| **Experience** | 1 year experience in RF & Microwave | 2 years experience in RF & Microwave |
| **Knowledge/ Skills/Abilities/ Competencies** | • RF & Microwave skills<br>• Report writing skills<br>• PCB designing skills<br>• Circuit designing skills<br>• Knowledge of RF/EMC compliance standards<br>• Able to use test equipment/instruments<br>• Able to communicate with other team members | |
| **4** | **How to Apply** | |
| Please email your resume to rrl@sines.nust.edu.pk only if you fulfil the criteria mentioned above with job title "**RF Design Engineer**" in the subject field by **07th January 2025**. | | |

| Job Title | Task Based Resource - RSP |
|---|---|
| No. of Positions | 01 |
| School/Institute/Centre | SINES |

| 1 | Purpose of Position |
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We are seeking a highly motivated Radar Signal Processing Engineer to join our team. The candidate will play a critical role in the development, implementation, and optimization of radar signal processing algorithms. This role involves working on signal detection, filtering, beamforming, target identification & tracking, and Doppler analysis.

| 2 | Functions/Duties (Key Responsibilities) |
|---|---|

- Algorithm Development:
  Design, implement, and test radar signal processing algorithms, including detection, filtering, FFTs, beamforming, and tracking. Develop solutions for signal denoising, interference mitigation, and clutter suppression. Optimize signal processing algorithms for deployment on FPGAs (using HDL/Verilog/VHDL), DSPs, or embedded systems. Integrate radar signal processing solutions into real-time systems.
- Radar Data Analysis:
  Analyze radar signal data (IQ data, time-domain, and frequency-domain) for performance evaluation and system optimization. Perform Doppler processing and range estimation for target identification.
- Simulation and Modeling:
  Develop radar signal processing models using tools like MATLAB or SystemVue.Simulate radar performance in different environments and refine algorithms accordingly.
- System Testing and Validation:
  Support laboratory and field testing for radar systems. Analyze test results and troubleshoot performance issues.
- Collaboration:
  Work closely with cross-functional teams including hardware engineers, software developers, and system architects. Contribute to technical documentation, including algorithm design documents and performance reports.

| 3 | Requirements |
|---|---|

| | Essential | Desired |
|---|---|---|
| **Qualifications** | Bachelors in Electronics/Electrical Engineering or relevant field with experience from HEC recognized institution | Master's degree in EE or relevant field with experience in Radar Signal Processing |
| **Experience** | Min 1 year in similar role | 2 years experience in Radar Signal Processing |
| **Knowledge/ Skills/Abilities/ Competencies** | • Proficiency in signal processing techniques (FFT, FIR/IIR filtering, beamforming, Doppler processing).<br>• Hands-on experience with tools like MATLAB/Simulink, Python, or C/C++.<br>• Knowledge of Radar signal models, waveforms, and clutter analysis.<br>• Experience in implementing algorithms on FPGAs, DSPs, or embedded platforms is a plus. Able to use test equipment/instruments.<br>• Understanding of radar concepts such as range, Doppler effect, SNR, and clutter rejection.<br>• Familiarity with Pulse-Doppler Radar, MIMO Radar, and Phased Arrays.<br>• Able to communicate with other team members | |

| 4 | How to Apply |
|---|---|

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