

Wireless DSP Engineer I

Brief

Looking for an experienced FPGA developer with an intimate understanding of FPGA programming and DSP architectures for wireless communications to implement and test embedded DSP algorithms for a 5G massive MIMO wireless communications network stack.

Company Description

Skylark Wireless is a wireless networking hardware startup headquartered in the vibrant heart of Houston, TX specializing in Television White Space (TVWS) systems and wireless beamforming or "Massive-MIMO" technologies for 5G wireless. Originally founded in 2012 by Ph.D. colleagues in order to provide custom software-defined radio equipment for research and development, today we design and manufacture customized radio solutions addressing the needs of the rural broadband market.

The high cost of fiber and satellite communications, as well as the poor range and capacity of cellular wireless technologies leaves 24 million Americans and over half of the world without high-speed broadband communications. We believe that high-speed internet access is a great equalizer, providing citizens with vital education, access to commercial opportunities, and entertainment in an increasingly global world.

Skylark's proprietary Faros™ base station is able to provide wireless high-speed multi-user data links over tens of miles using Massive-MIMO technologies first developed and demonstrated at Rice University. Skylark is funded through a mix of sales, consulting, investment, and development grants from the NSF SBIR program and Microsoft. With your help, we will be piloting our technology with our strategic partners in order to start serving end users in the next few years.

We maintain an open, relaxing 2,640 sq. ft. office within Houston's inner loop with access to parking and a wealth of dining choices nearby. Houston is the 4th largest city in the US, yet maintains an exceptionally low cost of living, a diverse and friendly culture, and plenty of night life and dining options from all corners of the world. There's a reason Houston is consistently listed as one of the best U.S. cities to live in—you'll see it when you join us. Home of the Johnson Space Center and the Astrodome, we don't shy from large projects or big ideas and we're certain you can find your place here.

Job Description

We're looking for smart, agile, and self-driven team members with the ability to work in a small, intimate team to tackle challenging research and engineering problems. A Ph.D. in Electrical/Computer Engineering, Masters with 1+ year of relevant experience or Bachelors with 5+ years of relevant industry experience in wireless systems is **required**. Experience implementing software-defined radio systems is **required**.

As part of an ongoing NSF SBIR Phase II project, you will be involved in the implementation and validation of proprietary MIMO technologies for the nascent rural broadband market utilizing custom Software-Defined Radio (SDR) equipment. You will be responsible for implementing core HDL IP blocks within our system and integrating them with hardware and software components. You must be an experienced developer, with the ability to define, implement, and test C/C++, Verilog/VHDL, and high-level scripting (e.g. Python) code for embedded wireless systems and be able to demonstrate success by designing and executing test-benches or demonstrations.

You will work with our proprietary Xilinx FPGA-based platform on a day-to-day basis, with the flexibility to define your own workflow and tools based on project requirements. You will assist other engineers with the specification and testing of new, innovative MIMO protocols and be involved with the development of patents and hardware integration for state-of-the-art wireless systems. A working knowledge of radio physics and algorithms related to OFDMA and digital beamforming is a **requirement** for this position, with experience implementing or testing LTE or WiMAX wireless systems a strong plus. You must have strong hardware and software troubleshooting skills, as we're bringing up new equipment and new features all the time.

We believe that we're developing the next communications platform for connecting communities around the world with high-speed wireless networks, and we want you to help us. As part of an early-stage company, you will have the opportunity to help define the scope of your role as well as extend your experience to all layers of the wireless network stack and our business.

The position is open starting September 1, 2018. Compensation is commensurate to qualifications. Skylark Wireless is an equal-opportunity employer and warmly welcomes applicants from all backgrounds to our diverse team.

Desired Skills & Qualifications

- Ph.D. in Electrical or Computer Engineering, Masters with 1+ year experience, or Bachelors with 5+ years industry experience with wireless systems.
- Strong hardware and software troubleshooting and debugging capability
- Strong communications and collaboration skills
- Intimate knowledge of wireless communications PHY and MAC layers
- Ability to design and execute wireless tests and experiments involving software-defined radios (e.g. GNURadio, WARP)
- LTE/WiMax protocol knowledge
- Desired competencies: Verilog/VHDL, embedded C/C++, MATLAB, Xilinx Vivado, Xilinx ISE, Linux, Python, LTE/WiMax protocol simulation and implementation
- Wireless beamforming and radio physics

Requirements

Skylark is an e-Verify company and applicants MUST be authorized to work in the United States. Applicants should have a college degree and relevant industry experience.

Application Instructions

Please submit a cover letter, contact information, and your resume to jobs@skylarkwireless.com with the email subject containing "Skylark Wireless Job Application." We will acknowledge receipt of your resume within 24 hours and may contact you within 1 week to schedule a follow-up phone call interview. Please do NOT call unless no acknowledgement is received.