



Software Defined Radio Engineer (SDR) Onsite, Full-Time Position

Pay Range: \$100,000 - \$170,000. Commensurate with Experience.

Location: Atlanta (GA), Miamisburg (OH)

Benefits Start on Day 1 of Hire:

- 100% company-paid health, dental, vision, life, and disability insurance coverage.
- Four weeks Paid Time Off per year, increasing to five weeks after five years.
- 11 Paid Holidays per year.
- Relocation package up to \$10,000.
- Flexible work hours.
- Casual working environment.
- State-of-the-art computer equipment.
- Full tuition reimbursement.
- Free membership to a nearby fitness facility.
- 15% annual company contribution to ESOP and/or 401(k) program.
- Free soda, juice, fresh fruits, popcorn and snacks!

Company Website: <https://cc-sw.com>

Caesar Creek Software works with various government agencies to perform cyber research into major operating system platforms, software security products, personal computers, cell phones, and networking equipment. We specialize in offensive information operations, reverse engineering, vulnerability analysis, and exploit development. We have a robust Internal Research and Development program that lets us do cool stuff on our own. If it has a processor, we love taking it apart to see what makes it tick. Our company motto: "We void warranties!"

Job Description:

We are seeking a highly skilled and motivated RF Protocol Reverse Engineer and Software-Defined Radio (SDR) Specialist to join our team. The successful candidate will be responsible for utilizing SDR technology to collect unknown waveforms, demodulate them, reverse engineer their underlying protocols, and subsequently develop systems capable of sending and receiving arbitrary RF messages using the discovered proprietary protocols. This role requires a strong background in engineering, RF communication protocols, and SDR technologies.



Essential Duties and Responsibilities:

- Collect and analyze unknown RF waveforms using Software-Defined Radio (SDR) tools.
- Reverse engineer proprietary RF protocols, decoding packet structures and functions.
- Develop demodulation algorithms and software for RF signal processing.
- Design systems to send/receive arbitrary RF messages using reverse-engineered protocols.
- Collaborate with cross-functional teams, communicate insights, and present findings.

Education Requirements

- Bachelor's Degree in Electrical Engineering, Computer Engineering, or related field and a minimum of 3 years of experience.
 - Each higher-level degree, i.e., a Master's Degree or Ph.D., may substitute for two years of experience. The degree must be from a university, college, or school which is accredited by an agency recognized by the US Secretary of Education, US Department of Education.

Required Qualifications

- The ability to obtain and maintain a TS/SCI security clearance and willingness to obtain Polygraph clearance. U.S. citizenship is required, as only U.S. citizens are eligible for a security clearance.
- Demonstrated experience in working with SDRs and RF communication systems.
- Hands-on experience in collecting and analyzing RF signals using SDR hardware and software tools.
- Familiarity with various modulation and demodulation techniques, including but not limited to FSK, PSK, QAM, and OFDM.
- Experience with protocol analysis and reverse engineering techniques to decipher communication protocols from raw RF data.
- Proficiency in using SDR platforms such as GNU Radio, HackRF, USRP, or similar tools for waveform collection and analysis.
- Ability to implement signal processing algorithms, demodulation techniques, and protocol decoding strategies using SDR frameworks such as Software Communications Architecture (SCA), GNU Radio, REDHAWK and/or X-Midas.
- Skilled in programming languages commonly used in signal processing, such as Python, C/C++, or MATLAB.
- Experience in a laboratory environment working with SDRs or FPGAs, and associated test equipment
- Strong understanding of RF signal processing, signal analysis, and wireless communication principles.
- Experience working with customers and on project teams



Preferred Qualifications

- Advanced degree in Electrical Engineering or related technical discipline
- In-depth knowledge of various RF communication protocols, both standard and proprietary.
- Familiarity with network protocols and packet analysis, as RF protocols often interact with higher-layer protocols.
- Strong problem-solving skills to address complex challenges in RF signal analysis, protocol reverse engineering, and system design.
- Analytical mindset to decode intricate RF waveforms and extract meaningful information.
- Excellent communication skills to document findings, share insights, and collaborate with cross-functional teams.
- Ability to present complex technical information in a clear and understandable manner.
- Self-motivated individual who can work independently and drive projects forward.
- Ability to innovate and develop novel solutions in the field of RF communication and SDR technology.
- Experience leading development projects and mentoring junior staff
- Active TS/SCI clearance and ability to obtain a polygraph

LinkedIn: <https://linkedin.com/company/cc-sw>

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, or disability. Caesar Creek Software is an Equal Opportunity/Affirmative Action employer.