

Job Title: Digital Signal Processing Eng (ECE) - AMTS

Requisition ID: 42067

All Locations: El Segundo, CA (California)

A trusted partner. A national resource. A leader in national security space. We are THE Aerospace Corporation. A team that takes pride in our readiness to solve some of the most complex technical challenges in existence. With challenges spanning government to commercial, you'll have the unique opportunity to work on projects that are literally evolving our nation's space and launch capabilities. We all share a common passion and aspiration – to serve a mission much bigger than ourselves. When you join our team, you'll be part of a rare collection of thought leaders and game-changing innovators. Are you ready to launch your career?

Responsibilities

The Aerospace Corporation's Digital Communications Implementation Department uses many tools including software defined radio, machine learning and FPGA technology to design digital transceivers and efficiently solve problems related to digital communications. Our academic excellence and deep technical knowledge allows us to conduct our own research and development and in this position you can have the opportunity to be part of a highly innovative team, known across the company for leading and shaping our corporate future by providing and developing engineering prototypes for our internal Aerospace customers, national stakeholders, and global commercial customers.

We are looking for recent college graduates, with or without graduate degrees, hands-on engineers, that are looking for an environment where they can both learn from our experienced staff but also be active Agile contributors. Our uniqueness in the engineering world is due to our task diversity. In our group, you will be exposed and will work on multiple projects which will allow you to grow a diverse set of skills which are key to career development. We highly value science and technology and offer a unique opportunity to help early-career engineers who are interested in pursuing advanced degrees while working in the industry. We have many roles to fulfill, so the job description below highlights many of the different areas we support including SDRs, Embedded systems, Wireless and Navigation technologies, reconfigurable systems, machine learning and more. Join us on the leading edge of digital communications development!!

KEY FUNCTIONS

- Work as part of a team of engineers who design, simulate, and prototype digital communication systems, GPS receivers and/or alternative navigation techniques.
- Use software defined radios (SDRs) to rapidly develop communication devices that can be rapidly deployed and tested by our customers
- Analysis of signal processing performance using Python/Matlab, or similar simulation environments.
- Ability to adapt to new available open-source tools and to contribute back to the open source community
- Investigate leading technology trends pertaining to advanced signal processing, GPS technology and/or reconfigurable communication processing.
- Be able to implement and demonstrate scientific concepts by building simulations and software-defined prototypes
- Document work products in briefings and/or technical reports to customers and colleagues.
- Candidate will work on a diverse set of projects. It is very important to be hands-on, willing to learn and be comfortable in working in an environment with engineers of diverse backgrounds and expertise.
- Investigate the use of machine learning techniques to solve digital communication problems like signal classification, pattern recognition, modulation design for non-linear and time-varying channels.
- Be willing to learn, ask questions, suggest solutions and be a true team-player!

Qualifications

REQUIRED QUALIFICATIONS

- Bachelor's degree from an accredited university in Electrical Engineering, Computer Science or a related field.
- Curiosity, self-motivation, and enthusiasm
- 0-1 years of professional experience after college graduation
- Knowledge of basic engineering and physics principles

- Understanding in an area of digital signal processing, software-defined radios digital communications, GNSS/GPS positioning, and navigation, or alternative navigation techniques
- Familiarity with laboratory tools such as oscilloscopes, spectrum analyzers
- Proficiency with one or more of the following: Python, MATLAB, C/C++, VHDL/ Verilog
- Strong written and verbal communication skills.
- This position requires the eligibility to obtain and maintain a security clearance, which is issued by the U.S. government. U.S. citizenship is required to obtain a clearance

PREFERRED QUALIFICATIONS

- Advanced degree (Master of Science) in a related field.
- Internship experience in a similar engineering role
- Experience in developing in Python / SciPy software using software engineering best practices including unit testing, continuous integration, and source control
- Experience with data-driven statistical or machine learning methods including deep learning and shallow learning. Familiarity with open-source AI tools
- Experience with GNURadio Software Defined Radio (SDR) and/or RFNoC
- Experience with writing digital signal processing code targeted to GPUs
- Experience designing and implementing FPGAs with VHDL or Verilog . Experience using high-level Verilog.sis FPGA tools such as Vivado HDL or Matlab HDL Coder
- Experience simulating communication systems and signal processing algorithms in Python or Matlab
- Interest in developing algorithms in Matlab and implementing in SDRs, DSPs, GPUs, and/or FPGAs
- Experience troubleshooting digital hardware designs in the laboratory environment

Transcript Requirement

Transcripts are required for this position.

Additional Requisition Details

System Job Title: MTS-ASSOCIATE

Clearance Requirement: Secret

Access: None

Polygraph: None

Relocation Available: [[relo]]

Employment Type: Regular

Work Schedule: Full Time

Company Statement

The Aerospace Corporation has provided independent technical and scientific research, development, and advisory services to national security space programs since 1960. We operate a federally funded research and development center (FFRDC) for the United States Air Force and the National Reconnaissance Office, and support all national security space programs. We also apply more than 50 years of experience with space systems to provide critical solutions to technologically complex systems in such areas as communications, shipping, law enforcement, and cyber, among others.

From our inception, our highly skilled technical staff has focused on ensuring the success of every mission and developing the most effective and economic space-related hardware and software in the world. Our greatest asset is the technical expertise of our people. Our state-of-the-art laboratory facilities are staffed by some of the leading scientists in the world.

Equal Opportunity Commitment

The Aerospace Corporation is an Equal Opportunity/Affirmative Action employer. We believe that a diverse workforce creates an environment in which unique ideas are developed and differing perspectives are valued, producing superior customer solutions. All qualified applicants will receive consideration for employment and will not be discriminated against on the basis of race, gender, gender identity or expression, color, religion, national origin, sexual orientation, protected veteran status, or disability status.

You can also review [The Equal Employment Opportunity is the Law](#) poster and [the supplement](#), as well as the [Pay Transparency Policy Statement](#).