



## EMBEDDED SOFTWARE VERIFICATION ENGINEER/ANALYST

### Corporate Description

MANNARINO Systems & Software Inc. is a leader in providing safety-critical systems & software engineering services to the aerospace, defense, space, simulation & power generation industries. We work with many of the top players within their industries giving our employees exposure to the most interesting and challenging development projects. This stimulating and invigorating working environment allows our team to be at the technological forefront constantly broadening their expertise and honing their skillset to fulfill the ever-growing global high-tech market needs.

The MANNARINO culture is focused on high quality, hard work, professionalism and team work within a highly respectful, motivating atmosphere geared towards long-term business growth.

As a member of our team, you will benefit from:

- a comprehensive group insurance and RRSP plan
- a flextime policy with paid overtime and off-site placement premiums
- discretionary bonuses
- a fitness reimbursement program
- other office perks such as catered weekly lunches and free hot beverages (espresso, coffee, hot chocolate and tea)
- regular company outings

MANNARINO is a privately-held Small & Medium Size Enterprise (SME)

[Named among Canada's top SME Employers since 2015.](#)

### Career Opportunity and Primary Roles / Responsibilities

We are currently seeking software engineers/analysts to support the verification and validation of embedded software for several on-going Aerospace projects including Flight Management Systems, Fuel Management Systems, Health Usage & Monitoring Systems, Real-Time Operating Systems, and Ground Collision Avoidance Systems. The positions are based in Montreal.

Primary responsibilities include execution, debug, update, and development of test scripts for high level and low level requirements in accordance with company and industry standard methodologies. Contribute to development and formal testing phases of the software development life cycle. Writing software test reports and problem / issue documentation and creation of debug and test software in a lab environment.

The software under test may cover a wide range of programming languages and include both low-level operating system software components and higher level application elements. Similarly, various test environments will be used to ensure correct embedded software functionality. The candidate will ensure the use of appropriate standards, processes, procedures and tools throughout the software verification.

Interfacing with customers, suppliers, application users and other technical and support personnel may also be required. The candidate must be able to work independently and in collaboration with other team members and project stakeholders. Excellent communication and technical skills will be required.

Although the primary role would be to verify/validate the embedded software, opportunities for professional growth in other areas like software development, systems engineering, and aircraft simulator development may arise.

## Required Competencies

- Bachelor's degree in computer science or related engineering disciplines from an accredited institute
- Experience with C and C++ Programming Languages
- Significant experience verifying embedded and application software
- Working experience with Software and Hardware -In-The-Loop verification environments (e.g. dSPACE, Opal-RT, Labview)
- Significant knowledge of 'scripting' languages and environments typically used for test script development (e.g. Python, XML, Google C++ Testing Framework)
- Experience working with real-time software debug probes (e.g. iSystems probes, LDRA debug probes, Agilent logic analyzers, Wireshark network analyzer, VectorCAST structural coverage toolset)
- Excellent Communication Skills
- Ability to report work status concisely and accurately to the Project Manager as requested
- Self-Motivated Team Member

## Other Competency Assets

- Experience with other programming languages (e.g. Assembly, Ada, C#, Microsoft .Net/WPF)
- Experience Verifying Real-Time Operating System Executives and/or Kernels
- Working experience with an Integrated Development Environment (e.g. GreenHills AdaMulti 2000, Freescale CodeWarrior, Microsoft Visual Studio)
- Knowledge of Model-Based Development Methods & Tools: UML, Rhapsody (IBM), Simulink, SCADE
- Knowledge of RTCA/DO-178C or other safety-critical software life cycle process
- Knowledge of Communication Protocols (e.g. Ethernet/AFDX, ARINC 429, RS 422, CANbus and USB 2.0)
- Knowledge of Integrated Modular Avionics (RTCA/DO-297, ARINC 653, ARINC 661, ARINC 664)
- Familiarity with Flight Management Systems Standards & Regulations
- Experience in Aircraft Displays, Guidance Systems, or other related Avionics Systems
- Experience working with laboratory equipment (e.g. oscilloscope, multi-meter, soldering iron)

## Miscellaneous Requirements

- Ability to communicate effectively in English and French (oral and written)
- Occasional travel required to customer sites (usually within North America)
- Possibility of assignment to customer site within the Montreal area
- Must be eligible to work in Canada

At Mannarino, we believe that passion and a desire to learn is crucial. Diversity of thought and experiences leads to innovative solutions and creativity. This is why we would like to encourage all those interested to apply.

**Please submit your application by**  
**E-mail: [rh@mss.ca](mailto:rh@mss.ca)**

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*We are an equal opportunity employer.  
All applicants will be held in strictest confidence.  
Only those selected for interview will be contacted.*

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