Frank M. Russo

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Professional Experience

Business Process Owner — 2018-2022

Northrop Grumman Corporation – Baltimore, MD

Leader of a multidisciplinary team responsible for the development, testing, deployment and adoption of a PLM software solution to digitally transform company business processes.

- Lead a 30+ person team consisting of software developers, Teamcenter architects, stakeholders, testers, helpdesk support, training content creators and business process subject matter experts.
- Completed design, and software implementation of a custom Siemens Teamcenter based Northrop Grumman Mission Systems Sector solution that is used by the entire Northrop Grumman Mission System sector.

Senior Principal Mechanical Engineer — 2015-Present

Northrop Grumman Corporation – Baltimore, MD

Specialize in high volume semi and fully automated test solutions. Develop requirements for and complete mechanical design and documentation of test equipment for sensor system components. Support and advise junior engineers to ensure success of their mechanical designs. Leverage GD&T, tolerance stack analysis and FEA as required. Collaborate with program management, thermal, structural, electrical, RF, and manufacturing engineering to define design requirements and implement solutions to challenging problems. Drive company innovation in additive manufacturing, automation, business processes and mechanical model-based definitions (MBDs).

- Lead test mechanical engineer for the NGC Mission Systems highest volume product in company history (40,000+ RF modules per month) fully automated test solution. Responsible for design, manufacturing, integration and maintenance of $3M+ of automation equipment. Implemented innovative solutions in order to support aggressive schedules, RF requirements and a factory 23 second takt time.
- Lead test mechanical engineer for a human loaded, automated antenna radiator test solution. Developed a single solution for 30+ different product variants of various form factors.
- Provide hands on support of PLC controlled automated systems and other test fixtures. Isolate and debug fixture problems to ensure accurate, reliable and repeatable RF and power measurements from the unit under test.
- Mentor for entry level mechanical engineers. Teach the engineering design process, design philosophy, design problem solving techniques, design requirement development, and mechanical analysis concepts in the context of a design project.
- Design, document and support manual test fixtures and other test solutions for RF modules, lowest replaceable unit (LRU) modules, radar antenna systems across various product lines and programs.

Mechanical Engineer **2012-2015**

Orbit International Corporation – Hauppauge, NY

Completed mechanical designs of rugged military devices such as flat panel displays and human-machine interface devices using SolidWorks. Worked closely with electrical engineering, configuration management, procurement and manufacturing to maximize design quality while minimizing costs and ensuring scheduled delivery dates are met.

Mechanical Engineer **2008-2012**

Northrop Grumman Electronic Systems – Melville, NY

Complete mechanical design projects with senior engineer guidance. Release and revise documentation, write equipment and test specifications, support environmental field testing. Analyze thermal and mechanical loads. Collaborate with manufacturing, electrical engineering, RF engineering and program management to ensure customer design requirements are met.

Engineering Intern **2004-2007**

Holzmacher, McLendon & Murrell, P.C. (H2M) – Melville, NY

Education

SUNY Stony Brook University (GPA: 3.83/4.0) **2011-2014**

M.S. - Mechanical Engineering

The Pennsylvania State University **2004-2008**

B.S. - Mechanical Engineering, Minor Engineering Mechanics.

Technical Skills, Software Experience and Hobbies

- Experience with Siemens PLCs, Beckhoff PLCs, Fanuc / U.R .6 axis robots, servos, pneumatics and sensors and other automation components
- *CAD/CAM Software:* Siemens I-deas, Siemens NX, SolidWorks, HSM Express, SolidCam
- *PLM Software:* Teamcenter, Active Workspace
- *Analysis Software:* ANSYS Mechanical, ANSYS Workbench, Autodesk CFD, NX CAE
- *Adobe:* Photoshop, Dreamweaver, Illustrator, Lightroom
- *Programming Languages:* C++, MATLAB, MathCad, Qt, Visual Basic for Applications, Python, G Code, JavaScript, CSS, HTML, Visual Basic for Applications
- Expert knowledge of ASME Y14.100, and Geometric Dimensioning and Tolerancing (GD&T)
- Company subject matter expert for 3D mechanical model based definitions (MBD) best practices
- Selected components for and assembled Windows based computers (2010, 2018)
- *Hobbies:* Acoustic / Electric Guitar (20 years), Kitesurfing (10 years), Photography, Woodworking, Dog Training