

SUMMARY

Mechanical engineer with 3 years developing, analyzing, integrating, and testing hardware for marine and defense adjacent systems in demanding environments. Applies structural, thermal, and fluid engineering fundamentals across **requirements analysis**, concept development, material selection, CAD, **finite element analysis**, fabrication, laboratory testing, field integration, production support, and product improvement. Uses SolidWorks and ANSYS to create controlled designs, evaluate stress and deformation, and resolve mechanical risks before prototype release. Experience includes seawater compatible materials, **corrosion resistance**, high load structures, rapid prototyping, 3D printing, technical drawings, manufacturing instructions, test specifications, MIL STD documentation, ASME practices, and supplier coordination. Communicates technical decisions clearly across engineering, manufacturing, suppliers, and program stakeholders, using test evidence and disciplined troubleshooting to mature reliable **mechanical systems**.

EXPERIENCE

Mechanical Engineer, Marine Systems

June 2024 - Present

Harbor Point Marine Systems

Virginia Beach, Virginia

- Owns mechanical design, analysis, integration, testing, documentation, and supplier coordination for deployable marine hardware exposed to seawater and dynamic loads. Supports product maturation from requirements through prototype fabrication, field verification, and production updates.
- Designed **SolidWorks** assemblies for deployable marine systems, controlling interfaces, tolerances, materials, and production drawings.
 - Evaluated brackets and housings with ANSYS FEA, confirming stress and deformation against prototype release requirements.
 - Selected corrosion resistant materials, seals, and fasteners for submerged components, balancing durability, weight, and manufacturability.
 - Integrated prototype hardware during laboratory and **field testing**, resolving fit, vibration, sealing, and interface issues.
 - Prepared **MIL STD** and ASME aligned drawings, reports, **manufacturing instructions**, and test procedures with traceable evidence.
 - Coordinated machine shops and **suppliers** during prototype **fabrication**, resolving constraints while protecting delivery schedules.

Associate Mechanical Engineer, Marine Hardware

October 2023 - May 2024

Atlantic Applied Engineering

Norfolk, Virginia

- Supported senior engineers developing marine test hardware through requirements translation, CAD modeling, structural evaluation, **rapid prototyping**, testing, and controlled documentation. Contributed practical design evidence for assemblies moving from concept review toward fabricated hardware.
- Translated system requirements into component concepts, **CAD** models, interface drawings, and prototype build packages.
 - Built SolidWorks enclosure models, checking assembly clearances and manufacturing constraints before fabrication drawing release.
 - Evaluated structural response with **ANSYS** under senior review, documenting assumptions and results for design reviews.
 - Printed rapid prototypes to verify packaging, assembly access, and interface geometry before machining commitments.
 - Supported bench and environmental testing, tracing mechanical anomalies across design, fabrication, and **integration** conditions.
 - Updated controlled drawings, parts information, and engineering reports after verified **test** driven design changes.

PROJECTS

- Seawater Resistant Deployable Housing 📅 2024
- Created a concept study for a deployable housing exposed to seawater, dynamic loads, and repeated handling. SolidWorks layouts, material comparisons, sealing considerations, and ANSYS checks supported a practical path from requirements through prototype evaluation.
- Rapid Prototype Marine Interface 📅 2023
- Developed a 3D printed interface concept for marine test hardware. Packaging checks, assembly access reviews, and fit observations helped reduce design uncertainty before machined hardware fabrication.

LEADERSHIP & AWARDS

- Recognized by engineering peers for practical troubleshooting during marine prototype integration and field testing.
- Selected for expanded design ownership after producing clear drawings, reports, and verification evidence for production decisions.
- Led supplier design reviews that resolved fabrication questions and kept prototype work aligned with program schedules.

EDUCATION

Bachelor's Degree in Mechanical Engineering

Old Dominion University GPA: 3.5

2023

Norfolk, Virginia

Coursework: Structural analysis, thermal systems, fluid mechanics, materials science

CERTIFICATIONS

- SolidWorks CAD Design Professional Development Certificate 📅 2023
- ANSYS Finite Element Analysis Training Certificate 📅 2024

TECHNICAL SKILLS

- **CAD Software:** SolidWorks, Siemens NX, Creo
- **Finite Element Analysis:** ANSYS, Abaqus, stress analysis
- **Mechanical Analysis:** Structural analysis, thermal analysis, fluid dynamics
- **Marine Materials:** Corrosion resistance, seawater materials, seals
- **Prototyping Methods:** Rapid prototyping, 3D printing, additive manufacturing
- **Defense Standards:** MIL STD, MIL S 901, ASME
- **Marine Design:** Hydrodynamics, buoyancy, marine structures
- **Testing Methods:** Laboratory testing, field testing, shock testing
- **Design Documentation:** Technical drawings, test specifications, manufacturing instructions
- **Engineering Lifecycle:** Requirements analysis, integration, troubleshooting

SKILLS

- | | | | |
|--------------------------|-----------------------|----------------------|-----------------------|
| • Mechanical Engineering | • CAD | • Fluid Dynamics | • MIL STD |
| • Maritime Systems | • FEA | • Material Selection | • ASME |
| • SolidWorks | • Structural Analysis | • Rapid Prototyping | • Systems Engineering |
| • ANSYS | • Thermal Analysis | • 3D Printing | |

PROFESSIONAL AFFILIATIONS

- Mechanical engineering professional focused on marine hardware, durable materials, and evidence based design decisions.
- Active participant in cross functional design reviews with engineering, manufacturing, suppliers, and program stakeholders.

LANGUAGES

- English (Native)
- French (Beginner)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST