

Daniel D. John

Systems Engineer | Physicist | Software Engineer

Technical generalist with experience in computational physics, real-time simulation, physics-based game systems, and aerospace-focused modeling.

Strong background in control systems, trajectory mechanics, and high-fidelity dynamics. Known for persistence, quick learner, and modeling complex systems from first principles.

EXPERIENCE

Minnesota Army National Guard — Artillery Specialist

07/2023 – Present

- Developed leadership and directness
- Supported precision engagement tasks requiring accuracy, discipline, and systems awareness
- Operated within structured, high-pressure team environments

Simulation Developer

2016 – 2026

- Developed physics-driven mechanics and real-time simulation systems
- Engineered custom rocket thruster allocation algorithms and flight dynamics solvers
- Built blended N-body & Keplerian orbital models to simulate perturbations and long-arc trajectories
- Designed missile guidance scoring systems for autonomous target selection
- Applied computational physics techniques for validation and scenario testing

President — Highschool Science & Engineering Club

2020 – 2023

- Led student engineering initiatives, coordinated technical workshops and project teams presented complex topics from a young age.

PROJECTS

Decel — Solar System & Spacecraft Dynamics Simulator

- Created a simulation platform modeling orbital mechanics, spacecraft control, and trajectory planning
- Developed physics-based system and computational methods

American Rally Association — Driver & Mechanic

- Built and maintained rally vehicle systems under competitive conditions
- Applied mechanical intuition, rapid troubleshooting, and field-condition repairs

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EDUCATION

University of Minnesota — Twin

Cities & Duluth, Bachelor of

Science, Engineering Physics

Systems, EAC-ABET accredited

06/2024 – Present

- Curriculum emphasizing systems engineering, computational methods, and applied physics
- Coursework focus areas: dynamics, controls, numerical modeling, embedded computation

SKILLS

Technical

- **C# — 10 years** (game systems, simulation frameworks, real-time physics)
- **Unity — 9 years** (custom physics, tooling, gameplay systems)
- **MATLAB, Mathematica, JMP** — numerical analysis, modeling, automation
- **CAD and CAM**

Strengths

- High attention to detail in all environments
- Learns new technical domains rapidly and applies concepts pragmatically