Nathan Spilker

Website: *https://github.com/nathanSpilker/Portfolio/*

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EXPERIENCE

Raytheon, Tucson, AZ — *GNC Engineer*

JULY 2022 - PRESENT

Operated in a "jack-of-all trades" role on the Next Generation Interceptor program GNC team. Also was controls lead and POC, implemented software improvements to NGI's attitude control system and valve control systems, designed structural filters.

Developed an optimal control solver for optimal guidance solutions.

Improved program-wide routine for analyzing simulation data by lowering memory requirement and processing time by 2x.

Developed a novel attitude navigator which improved NGI's attitude error by an order of magnitude. Published in peer-reviewed journal and implemented on other programs.

Ravyn Technology Corp., El Segundo, CA — *CTO*

JULY 2020 - MAY 2022

Operated as CTO of Ravyn Technology Corporation, a startup aerospace defense company that has raised $400K in Venture Capital. Spearheaded a design study for a small-diameter air-to-air missile, for which Ravyn submitted white papers to the DoD. Met with military personnel and submitted proposals for government contracts.

EDUCATION

Princeton University — *B.S.E, Mech. and Aero. Engineering*

GRADUATED MAY 2021

Independent work on autonomous VTOL electric drones. Focused on Control Systems, Engineering Physics, and Computer Science.

Princeton University — *Master of Engineering, MAE*

GRADUATED MAY 2022

Focused on Robotics, Control Systems, Filters, and Optimal Control.

PROJECTS

Project Repository — *https://github.com/nathanSpilker/Portfolio/*

Contains pictures, documents, drawings, and code from many of my projects over the years. Some projects are: 2D incompressible Navier Stokes solver, re-entry vehicle design, 6-DOF simulation for canard controlled missile, indirect solver for optimal satellite maneuvers, card game playing app, and more.

SKILLS

I learn quickly, and am happy to get out of my comfort zone; I took classes ranging from General Relativity to computer design to quantum computing algorithms at Princeton.

Advanced with C++, Python, MATLAB, Java, Javascript, Slurm, Bash, Powershell, Simulink, Excel.

Strong Math and Physics background.

Git, HPCs, Linux, Windows.

Have trained AI models with Tensorflow.

Business experience from working on a startup, had to "wear all the hats."

Active Secret Level Security Clearance.

AWARDS

Sigma Xi; Princeton undergrad graduation honors.

John Marshall II 2nd Place thesis prize; Princeton award for outstanding senior theses.

Raytheon Flight Sciences Employee of the Month – December 2024.