

Carl Kolon

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I am a Submarine Officer in the US Navy with five years of experience. I lead engineering teams who construct, maintain, and test nuclear submarines. I have a mathematical and coding background from my academic work and independent projects. I hold an active Top Secret/SCI clearance.

EDUCATION

US Naval Academy – B.S. with Distinction, Mathematics with Honors (June 2014 – May 2018)
3.89 GPA, [Trident Scholar](#), [Julian Clancy Frazier Mathematics Research Award](#).

SKILLS

Significant Experience In: Python, C#, HTML, JavaScript, Wolfram Mathematica, Linux/Unix Shell, LaTeX.

Some Experience In: Liquid (Jekyll), C++, CSS, R, Gusek, Ruby, QGIS.

Language Skills: Proficient in Mandarin (Speaking), lived in Beijing for 9 years.

EXPERIENCE

Assistant Engineer/Quality Assurance Officer: PCU New Jersey (SSN 796) (Jan 2022 – Present)

- Acting ship's engineer, in charge of 62 nuclear trained sailors and \$1 billion of equipment.
- Coordinated six inspections by external auditors to certify the ship and crew for initial reactor criticality.
- [Submarine Squadron Eight Junior Officer of the Year](#) for 2022. Selected as the best junior officer among a group of about 80 peers.
- Top-ranked Junior Officer aboard my ship (out of 12).
- Subject matter expert on the Navy's newest submarine reactor plant (Type II S9G). Top of my class at [PNEO](#), a course which certifies nuclear engineers.

Division Officer: PCU New Jersey (SSN 796)/USS John Warner (SSN 785) (Jan 2020 – Dec 2021)

- Led three different divisions of 8-11 nuclear-trained sailors through a first-in-life test program aboard a new construction submarine.
- Nuclear watch officer for five key events, including control rod testing and primary hydrostatic testing.
- 193-day deployment to the European theater, with daily operational planning at the Top Secret level.
- Integrated the ship's fire control software with GIS tools, saving 500 man-hours of chartlet generation.

Nuclear Power/Submarine Training Pipeline (Jul 2018 – Dec 2019)

- Widely recognized as the [most academically challenging program](#) in the military. Split between classroom instruction and practical experience leading a watch team on a real reactor plant.
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PROJECTS ([See My Blog for More](#))

Cycling Efficiency ([On My Website](#)) (Feb 2023)

An interactive script to analyze efficiency statistics for cycling. JavaScript and Chart.JS.

Watchbill Planning with Integer Programming ([On My Website](#) – [On GitHub](#)) (Feb 2022)

An integer programming model to optimize watchbill planning for a submarine. Adopted by multiple Norfolk-based ships. Python and OR-Tools.

Torpedo Evasion! ([On My Website](#) – [On GitHub](#)) (Feb 2021 – Dec 2021)

A submarine combat computer game. Unity, C#, Blender.

Statistical Analysis of Backpacks ([On My Website](#)) (Sep 2021)

A project to rate backpacks by statistically analyzing their weight and volume. Python, web scraping with Selenium, Pandas, Plotly.

Trident Scholarship ([On My Website](#) – [Preprint](#) – [Video Presentation](#)) (Mar 2017 – May 2018)

Studied an applied mathematics problem concerning the stability of swarm models. Mathematica, C++, ROS, LaTeX, Python, Linux Shell.

PERSONAL

My wife, Jackie, is a 4th-year medical student at UCSF.

In my spare time I enjoy backcountry skiing, ultralight backpacking, guitar, and cycling.