Colton Kawamura
c.kawamura@me.com | 619-319-1196 | Franklin, NC | Top Secret Clearance

EDUCATION

Master of Science, Physics, Naval Postgraduate School, September 2020 GPA: 3.98

- Selected Coursework: Advanced Graduate Mathematics, Quantum Mechanics, Machine Learning, Linear Systems

Bachelor of Science, Applied Physics, U.S. Naval Academy, May 2012, GPA: 3.52

SKILLS

Programming Languages: C#, Python (SciPy, NumPy, Pandas), MATLAB (Simulink), C++, Julia, R, LaTeX
Technologies: .NET, Linux, Bash, Parallel Computing, Git, SVN, Jenkins, SLURM, HPC, Gaussian, LAMMPS, GPAW

EXPERIENCE

Duotech Services| Franklin, NC **March 2025 – Present**

Lead Software Engineer

- Full-stack development of software-defined defense aerospace automated test equipment; shipped new graphical plotting features in under 30 days on onboarding, enhancing user engagement.
- Spearheaded frontend modernization and documentation overhaul, reducing junior engineer ramp-up time and accelerating product delivery while cutting operational costs.

Research Faculty, Physics Department | Naval Postgraduate School; Monterey, CA **May 2024 – Present**

Computational Mathematics and Physics (Remote)

- Engineered high-performance numerical simulation frameworks in C++ for modeling fluid viscosity interactions in granular systems, optimizing energy transfer and dissipation analysis with custom molecular dynamics and post-processing pipelines.
- Designed new software architectures, reducing computational runtime by orders of magnitude while maintaining accuracy and reliability in large-scale simulations with parallel programming.
- Created and implemented FFT-based spectral decomposition software to analyze trajectory signals, improving filtering accuracy, phase extraction, and noise reduction for real-time signal processing applications.
- Developed over 20 interconnected software modules, streamlining complex particle interaction modeling and eliminating redundant processing through efficient data structures and algorithmic optimizations.
- Published research on a Generative AI approach to counter-swarming, leveraging neural networks to improve predictive capabilities.

US Navy | US Africa Command; Stuttgart, Germany **September 2020 – March 2024**

Technical Program Manager, Explosive Device and Unmanned Aerial System Defense

- Analyzed large unstructured data to extract trends and predict outcomes, informing strategic decisions. Conveyed complex relationships of variables into concise and actionable plain language. Developed and optimized unmanned autonomous aerial vehicle and explosive electronic countermeasures programs for multiple countries concurrently under Agile methodology.
- Led coordination for air flow, distribution, and obtaining host nation authorities to deploy counter unmanned aerial systems in combat environments. Personally briefed weekly status updates to Commander, US Africa Command.

Graduate Student | U.S. Naval Postgraduate School; Monterey, CA **September 2018 – September 2020**
Quantum Thermochemistry

- Research in computational quantum thermochemistry. Thesis on thermodynamic properties of explosives by optimizing quantum systems, leveraged Density Functional Theory (DFT) for analysis with supercomputers.
- Completed an interdisciplinary Undersea Warfare curriculum focused on operational employment of sensors and weapons using mathematics, physics, oceanography, electrical and mechanical engineering, and operations analysis.

US Navy | EOD Mobile Unit ONE & THREE, SEAL Team THREE **May 2012 – September 2018**
Special Operations (EOD) Officer

- Conducted over 23 combat missions and 200+ underwater reconnaissance dives across multiple operational areas.

AWARDS

- Academic: Chief of Naval Operations Undersea Warfare Award / Outstanding Thesis Award
- Military: Bronze Star Medal / Combat Action Ribbon / Joint Service Achievement Medal / and others.

PUBLICATIONS (4+)

- Most Recent: High-Energy Density Material with Magnetically Modulated Ignition, JASC (2024)