

Marvyn Bailly

marvyn@marvyn.com | marvyn.com

Education

University of Maryland, College Park <i>PhD, Applied Mathematics and Scientific Computation (AMSC) (GPA: 3.892)</i>	2023 – Present
University of Washington <i>M.S., Applied Mathematics (Concentration in Numerical Methods) (GPA: 3.84)</i>	2022 – 2023
University of Oregon <i>B.S., Mathematics (Concentration in Applied and Computational) (GPA: 3.96)</i>	2020 – 2022
Central Oregon Community College <i>A.S., Baker Early College Program (GPA: 4.0)</i>	2017 – 2020

Relevant coursework.

Computational Fluid Dynamics, Natural Language Processing, Parallel Computing, Scientific Computing, Applied Numerical Optimization, Numerical Analysis

Research experience

Research Assistant <i>Computational Turbulence Laboratory, Department of Mechanical Engineering, University of Maryland (Advisor: Johan Larsson)</i>	2024 – Present
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- Worked with a multidisciplinary team to study grid adaptation for wall-modeled turbulence at all Mach numbers.
- Working on creating an automatic quad/hex mesh framework to produce high quality grids for finite volume fluid methods.
- Implementation in Julia and C++ to be run on a local high performance computing (HPC) cluster, Zaratan.

Research Assistant <i>Computational Turbulence Laboratory, Department of Atmospheric & Oceanic Science, University of Maryland (Advisor: Jacob Wenegrat)</i>	2023 – 2024
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- Worked with a team of Atmospheric and Oceanic scientists to study the effect of the diurnal cycle on internal ocean dynamics.
- Implemented large eddy simulations (LES) in Julia and performed computations on Zaratan.

Other experience

Teaching Assistant <i>University of Maryland & University of Washington</i>	2022 – Present
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- Led biweekly problem-solving sessions and provided feedback for undergraduate courses in probability and calculus and graduate courses in data science.

Graduate Student Committee <i>University of Maryland</i>	2025 – Present
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- Organized and led the Joint AMSC, Math & Stat Student Seminar (JAMS)

Summer Camp Director <i>University of Maryland - Girls Talk Math</i>	2023 – 2025
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- Directed summer program operations, managed hiring of undergraduate leaders, and coordinated industry out-reach.

Skills

Experience with: Julia, Python (pandas, numpy, matplotlib, transformers), Linux, MATLAB, bash, Excel, Java, Javascript, C++, L^AT_EX, git, HPC (SLURM)