Ben Wilfong

1 Basic Information

Title: Graduate Research Assistant
Institution: Georgia Institute of Technology
Email: bwilfong3@gatech.edu
Website: benwilfong.com
Research Interests: Computational fluid dynamics, bubble dynamics, hydrodynamic instability, multiphase fluid dynamics, high performance computing, GPU accelerated modeling and simulation

2 Education

- Georgia Institute of Technology
  (In Progress) Doctor of Philosophy, Computational Science and Engineering
  Advisor: Dr. Spencer Bryngelson
- Rose-Hulman Institute of Technology
  (2022) Bachelor of Science, Mechanical Engineering and Computational Science

3 Experience

- Weapons and Complex Integration Intern — June 2022 – August 2022

  Institution: Lawrence Livermore National Laboratory
  Supervisor: Dr. Kyle Sinding
  Duties: Perform molecular dynamics simulations using LLNL's HPC resources using LAMMPS, generate case files and input data, post-process data to gather useful quantities of interest

- EERE High Performance Computing for Manufacturing Intern — July 2021 – August 2021

  Institution: Lawrence Livermore National Laboratory in collaboration with Oak Ridge Institute for Science and Education (ORISE)
  Supervisor: Dr. John Karnes
  Duties: Perform finite element simulation using LLNL's HPC resources using ALE3D, generate case files and input data, post-process data to gather useful quantities of interest

4 Awards

- (2022) Georgia Tech Presidents Fellowship
- (2024) CRNCH Fellowship for Novel Computing Paradigms and Hierarchies

5 Service and Outreach

- (2023-Present) PURA Award Reviewer

6 Publications

6.1 Archival, heavily referred papers

[P1] Anand Radhakrishnan, Henry Le Berre, **Benjamin Wilfong**, Jean-Sebastien Spratt, Mauro Rodriguez, Tim Colonius, and Spencer H. Bryngelson. "Method for scalable and performant GPU-accelerated simulation of multiphase compressible flow". In: *Computer Physics Communications* 302 (2024), p. 109238. DOI: 10.1016/j.cpc.2024.109238

6.2 Conference papers

[C2] **Benjamin Wilfong**, Ryan M. McMullen, Timothy Koehler, and Spencer H. Bryngelson. "Instability of two-species interface via vibration". In: *AIAA Aviation Forum and Exposition*. Las Vegas, Nevada, 2024

[C1] **Benjamin Wilfong**, Anand Radhakrishnan, and Spencer H. Bryngelson. "Multiphase flow numerics: Perspectives from exascale simulation". In: *5th International Conference on Numerical Methods for Multiphase Flow (ICNMMF)*. Reykjavik, Iceland, 2024