Jamil Stafford

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Education

Virginia Polytechnic Institute & State University (Virginia Tech) *Blacksburg, VA*

- M. S. Aerospace Engineering, *2022*
- B. S. Physics, *2018*

Research Experience

- Computational modeling and validation of an improved estimate of the cross section for inverse beta decay
- Using multi-physics computational models to study spacecraft propulstion and fusion energy concepts
- Developing and programming high-performance computational fluid and plasma simulation software
- Verification and Validation of the FLASH code against other experimental and simulation data
- Using the FLASH radiation hydrodynamics code base to study laser-driven plasma jet physics
- Verification and Validation of Alvén Wave Propogation in the plasma column of a Z-pinch
- Using the Gkeyll code to study plasma sheath physics and the Weibel Instability
- Reduced-order modeling of fluids to drastically reduce computation time
- Parallelized, distributed, and GPU accelerated computing

Relevant Studies and Skills

Computational Fluid Dynamics (CFD), Computational Plasma Physics, Electromagnetism, General Relativity, Statistical Mechanics, Thermal Physics, Verification and Validation of Scientific Computing, Numerical Analysis (including Finite Volume (FVM), Finite Element (FEM)), Vehicle Dynamics, Functional Analysis, Technical Writing, Computational Astroparticle Physics, Nuclear Physics

Computer Skills

Julia, C/C++, Python, FORTRAN, MATLAB, Wolfram Mathematica, Linux, Powershell and Bash scripting, LaTeX, Git, Docker, HPC/Clustering, MPI, CUDA, Jira/Atlassian, Java

Work Experience

Computer Systems Specialist *October 2021-June 2023*
Torc Robotics

- Software development and support: building software integrations, APIs, automations, and databases for numerous systems
- Developing and supporting computer systems that power autonomous drive systems and simulations
- Using Jira/Atlassian toolsets to work in an Agile and Scrum environment
- Technical writing and process documentation
- Linux system architect and administrator

Computer Support Specialist *June 2018-May 2021*
Virginia Tech Office of VP for Finance

- Web Development: Building and managing departmental webpages, databases, and documentation
- Troubleshooting computer, network, server, and security issues
- Logistics and interdepartmental collaboration
- System administrator

Senior Expert Technician   *February 2018-June 2018*

Virginia Tech Biocomplexity Institute

- Troubleshooting computer, network, server, and security issues
- Building and supporting HPC clusters

Senior Expert Technician   *July 2014-June 2018*

Virginia Tech Division of IT

- Developing training curriculum, processes, and documentation for both students, staff, and faculty across the university
- Serving as top-tier support staff to aid and guide others through problem differential and diagnosis
- Web Development: Building and managing departmental webpages and documentation
- Troubleshooting computer, network, server, and security issues
- Logistics and university-wide interdepartmental collaboration
- Training, organizing, and managing IT Helpdesk employees
- Public outreach and communications

Volunteer Experience

Montgomery County Animal Care and Adoption Center,
Friends of Animal Care and Control (FACC)   *2017-Current*

- Assist with risk assessment, behavioral evaluations and training, and training new volunteers
- Provider of enrichment and exercise for homeless and at-risk pets in the local community
- Organizing adoptions, events, and fundraisers