

Vedant Puri

CONTACT INFORMATION	Email: vpuri3@illinois.edu Phone: +1-347-330-1343	LinkedIn: https://linkedin.com/in/vpuri3 Code: https://github.com/vpuri3
EDUCATION	University of Illinois Urbana-Champaign , Urbana, IL, USA <i>B.S. Engineering Mechanics</i> , Secondary Field: <i>Fluid Mechanics</i> <i>B.S. Mathematics</i> (dual degree), Concentration: <i>Graduate Preparatory</i> Minor: <i>Computational Science and Engineering</i>	Aug 2015–Dec 2019 GPA: 3.66/4.00
WORK EXPERIENCE	Research Aide, Argonne National Laboratory , Lemont, IL, USA - Conducted Direct Numerical Simulations of separated flows in undulating geometries utilising up to 1024 compute nodes for 200 hours at Argonne supercomputers using spectral element code NEK5000 - Wrote FORTRAN 77 setup to compute of wall stresses, spatial averages, and budget terms for the tensor Reynolds Stress Transport Equation to study mechanisms of turbulent energy production - Modelled the effect of unresolved boundary features by adding small-amplitude sinusoidal roughness Intern, National Center for Supercomputing Applications , Urbana, IL, USA - Computed initial data for spacetime metric of binary black hole system for gravitational wave simulations - Extended relaxation methods for solving linear partial differential equations to nonlinear problems - Wrote Laplacian preconditioners for elliptic PDEs using discrete transforms and PETSc in C Course Assistant, Introductory Statics, University of Illinois , Urbana, IL, USA	May–Jul 2018 Sep 2017–May 2018 Jan 2016–Dec 2017
RESEARCH WORK	(thesis) V. Puri , R. Balakrishnan, A. Obabko, P. Fischer, <i>Reynolds Stress Budgets for Wall-Bounded Flows in Wavy Geometries</i> (talk) V. Puri , R. Haas, E. Bentivegna, <i>Initial Data Generation Algorithms for ‘Einstein Toolkit’</i> . American Physical Society April Meeting, 2018	
COLLEGIATE INVOLVEMENT	President, Society for Engineering Mechanics , UIUC - Led an organisation of 30 students to complete ‘Chocolate 3D Printer’, and ‘S’mores Machine’ projects - Augmented student participation in Engineering Mechanics program through tutorials, advising sessions, company information sessions, workshops, social events, and annual department research fair - Supported student recruitment to Mechanical Science and Engineering department Curriculum Development, Society for Engineering Mechanics , UIUC	Aug 2018–May 2019 Oct 2016–May 2018
HONOURS AND AWARDS	<i>Theoretical and Applied Mechanics Merit Award</i> UIUC Mechanical Science and Engineering Department award in honour of a student’s special contributions to Theoretical and Applied Mechanics, and Engineering Mechanics programs	2019
TECHNICAL SKILLS	Programming Fortran 77, C, C++, MATLAB, Python, Shell Miscellaneous L ^A T _E X Typesetting, Computer Aided Design, woodworking, soldering, photography	
PROJECTS	https://github.com/vpuri3 - /Spec: MATLAB spectral element codes for fluid flow problems - /Notes: Compiled notes on mechanics and mathematical analysis - /NekTools: Turbulence budgets and post-processing routines for CFD code NEK5000 - /IlliniHyperloop: (Capstone Project) Implemented a passive cooling solution absorbing 300 kJ of heat from propulsion system of a Hyperloop pod; fabrication handled by sponsor, Novark Technologies, Inc.	