

EDUCATION	University of Illinois Urbana-Champaign <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>	2015–2019 GPA: 3.65/4.00
WORK EXPERIENCE	Research Aide, Argonne National Laboratory - Conducted Direct Numerical Simulations of wall-bounded flows in undulating geometries utilising up to 1024 compute nodes for 200 hours at Argonne supercomputers using spectral element code NEK5000 - Wrote 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 and transport - Simulated the effect of unresolved boundary features by adding roughness Intern, National Center for Supercomputing Applications - Extended Scheduled Relaxation Jacobi method for iteratively solving linear elliptic partial differential equations to nonlinear problems - Obtained preliminary results using above method for initial data of the spacetime metric associated with a binary black hole system, for numerical relativity simulations - Wrote tensor-product based preconditioners for iteratively solving elliptic boundary value problems implemented using a discrete sine transform in numerical framework PETSc Course Assistant, Introductory Statics, University of Illinois	May–Jul 2018 Sep 2017–Apr 2018 Jan 2016–Dec 2018
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 - Led an organisation of 30 students to complete projects such as ‘Chocolate 3D Printer’, and ‘S’mores Machine’ for annual Engineering Open House - Augmented student participation in Engineering Mechanics program through tutorials, advising sessions, company information sessions, workshops, social events, and annual department research fair - Facilitated in recruiting students to department of Mechanical Science and Engineering Curriculum Development, Society for Engineering Mechanics	Aug 2018–May 2019 Oct 2016–May 2018
HONOURS AND AWARDS	Theoretical and Applied Mechanics Merit Award UIUC MechSE Department award given 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, spectral element codes for incompressible fluid flow problems - /Notes: Compiled notes on mechanics and mathematical analysis - /IlliniHyperloop: Capstone project to implement a passive cooling solution absorbing 300 kJ of heat from propulsion system of a Hyperloop pod; fabrication handled by sponsor, Novark Technologies, Inc.	