

Joshua R. Danczyk
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Objective

Obtain an M.S. and eventually a Ph.D. in Mechanical Engineering at UW-Madison. Special interests include but are not limited to optimization techniques, FEA, CFD, control systems, and IC engines.

Education

M.S. student	Mechanical Engineering	UW-Madison	Exp. Dec 2007	3.925/4.000
B.S.	Mechanical Engineering Highest Distinction	UW-Madison	2006 Honors in Research	3.915/4.000

Awards

Alexander Cowie Fellowship 2006-2007	NSF REU Fellowship 2004-2006
Dean's Honor List 7 of 7 semesters	National Dean's List
Jane Bradley Pettit Scholarship	Charles A. Gilpin Memorial Scholarship
Charles G. Gunderson Scholarship	Professor Benjamin G. Elliot Scholarship

Coursework

Optimization of Mechanical Systems	Computational Fluid Dynamics
Automatic Controls	Numerical Methods

Related Experience

Master Research Fall 2006 to present
Dimensional Reduction of fluid flow for use in microfluidics and injection molding.

Senior Thesis Summer 2006
Generalized Dimensional Reduction of Stokes Flow over Geometrically Complex Thin Solids

University of Wisconsin-Madison Summer 2004 to Summer 2006
Undergraduate Research Assistant
Researched Multi-Dimensional Coupling of scalar fields via of the Medial Axis. Wrote programs to fully automate multi-dimensional coupling. Worked towards a fully automated and generalized Dimensional Reduction of steady-state incompressible Stokes Flow onto the Medial Axis.

UW-Madison Formula SAE Racing Team January 2002 to present
Developed a fully automated and robust optimization routine for the restrictor that ties into Ansys Multiphysics, CFX, ICEM, and MATLAB. Simulation results correlated within 0.48% error of physical data. Optimized 19mm throat design performs nearly equal to previous 20mm design.

Kulicke and Soffa Fall 2005
Cooperative Education
Primary on-site analyst of R&D group. Used SolidWorks and COSMOSWorks extensively to model and analyze structural behavior of semiconductor test devices. Exploited Periodic Symmetry to reduce computation time 9-fold.

Related Skills

Software

Ansys Multiphysics, CFX, ICEM, Ricardo WAVE, Ricardo VECTIS, Unigraphics, SolidWorks, COSMOSWorks, Maple, MATLAB, FEMLAB