

## Daniel W. Zaide

---

CONTACT INFORMATION	Silicon Engineering Group Synopsys Inc. Mountain View, CA, 94043	<i>Phone:</i> (303) 919-7338 <i>E-mail:</i> <a href="mailto:dan.zaide@gmail.com">dan.zaide@gmail.com</a> <i>Website:</i> <a href="http://www.danielzaide.com">www.danielzaide.com</a>
CITIZENSHIP	Canada	
EDUCATION	<b>University of Michigan</b> , Ann Arbor, Michigan, USA Ph.D., Aerospace Engineering and Scientific Computing, June 2012 <ul style="list-style-type: none"><li>• Advisors: Professor Philip L. Roe and Professor Kenneth G. Powell</li><li>• Dissertation: <i>Numerical Shockwave Anomalies</i></li></ul> M.S., Applied Mathematics, April 2011 M.S.E., Aerospace Engineering, April 2009  <b>University of Toronto</b> , Toronto, Ontario, Canada B.A.Sc. with Honours, Engineering Science, June 2007	
PROFESSIONAL DEVELOPMENT	Instructional Skills Workshop, Certificate of Completion, December 2012 Applications of Parallel Computers, Certificate of Completion, May 2013 Foundations of Project Management I, Certificate of Completion, May 2013	
AWARDS	20th AIAA CFD Conference, 4th AIAA CFD Student Paper Competition, 2011 <ul style="list-style-type: none"><li>• 1<sup>st</sup> Place, “Shock Capturing Anomalies and the Jump Conditions in One Dimension”</li></ul> Natural Sciences and Engineering Research Council of Canada, 2010-2012	
RELEVANT EXPERIENCE	Silicon Engineering Group, Synopsys Inc., Mountain View, CA <i>R &amp; D Engineer, Sr I.</i> <b>Mar 2016 - Present</b> <ul style="list-style-type: none"><li>• Researching and implementing meshing and computational geometry algorithms for transistor simulation and chip design.</li><li>• Maintaining tests and software infrastructure for meshing libraries and supporting simulation software teams within the Technology CAD teams at Synopsys Inc.</li></ul> Scientific Computation Research Center, Rensselaer Polytechnic Institute, Troy, NY <i>Post-Doctoral Research Associate</i> <b>Jan 2015 - Feb 2016</b> <ul style="list-style-type: none"><li>• Developing algorithms and software for curved mesh generation and adaptation in parallel for finite element methods, specifically with Bézier shape functions.</li><li>• Developing thermodynamic models for intelligent building facade design in collaboration with the Center for Architecture Science and Ecology.</li></ul> Department of Mechanical Engineering, University of British Columbia <i>Post-Doctoral Research Associate</i> <b>September 2012 - December 2014</b> <ul style="list-style-type: none"><li>• Researched and developing algorithms and software under Dr. Carl Ollivier-Gooch for unstructured mesh adaptation in the simulation of the semi-conductor device manufacturing process, specifically local surface insertion into pre-existing meshes.</li></ul> <i>Sessional Lecturer, Undergraduate Aerodynamics</i> <b>January 2013 to April 2013</b> <ul style="list-style-type: none"><li>• Developed course notes and supplementary resources for the undergraduate aerodynamics course to senior engineering students. Lectured, graded, and administered course material.</li></ul>	

Center for Radiative Shock Hydrodynamics, University of Michigan

*Graduate Student Research Assistant*

**September 2009 to June 2012**

- Collaborated with a large research team on numerical method development for the simulation and uncertainty quantification of large scale radiative shockwave experiments.

Los Alamos National Lab, Los Alamos, New Mexico, USA

*Graduate Student Research Assistant*

**May 2010 to August 2010**

- Examined anomalous behavior in the numerical simulation of shockwaves and implemented implicit-explicit timestepping methods for radiation hydrodynamics under the supervision of Dr. Robert B. Lowrie.

Department of Aerospace Engineering, University of Michigan

*Graduate Student Instructor*

**2007-2011**

- Teaching Assistant for AERO 325: Introduction to Aerodynamics, AERO 523: Computational Fluid Dynamics I, and AERO 520: Compressible Flow.
  - Responsible for holding office hours, answering questions about course material, and assisting with homework material and developed homework and midterm solutions and grading rubrics.

SELECTED  
CONTRIBUTIONS

Schulz, Justin, Zaide, Daniel W., Dyson, Anna, Oberai, Assad, and others, **A Method for Modeling Double-Skin Facade with Energy Capture: Integrated Concentrating Solar**, *In preparation*.

Zaide, Daniel W., Lu, Qiukai, and Shephard, Mark S., **A comparison of  $C^0$  and  $G^1$  continuous curved meshes on high-order finite element simulations**, *24th International Meshing Roundtable*, Oct 2015.

Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Inserting a surface into an existing unstructured mesh**. *International Journal for Numerical Methods in Engineering*, 2015.

Zaide, Daniel W. and Ollivier-Gooch, Carl F., **Anisotropic Layering via curve insertion into unstructured meshes**. *23rd International Meshing Roundtable*, Oct 2014.

Zaide, Daniel W. and Roe, Philip L., **A Second-Order Finite Volume Method that Reduces Numerical Shockwave Anomalies in One Dimension**. *21st AIAA Computational Fluid Dynamics Conference*, June 2013

Zaide, Daniel W. and Roe, Philip L., **Shock Capturing Anomalies and the Jump Conditions in One Dimension**. *20th AIAA Computational Fluid Dynamics Conference*, June 2011

Zaide, Daniel W. and Roe, Philip L., **Entropy-based Mesh Refinement, II: A New Approach to Mesh Movement**. *19th AIAA Computational Fluid Dynamics Conference*, June 2009

PROFESSIONAL  
SERVICE

Team Mentor - Simon Fraser University Unmanned Aerial Vehicle Team  
Co-Faculty Advisor - University of British Columbia Human Powered Vehicle Team

TECHNICAL  
SKILLS

Programming: C, C++, Python, Matlab  
Word Processing Software:  $\text{\LaTeX}$ ,  $\text{\LaTeX}$ , Microsoft Office, Open Office

REFERENCES

Available Upon Request