William van Noordt

willvanzero {at} gmail {dot} com Curriculum Vitae

Objective

To attain a doctoral degree and pursue a career in computational fluid mechanics research.

Research Interests

Numerical analysis, transonic flows, turbulence modeling, hypersonic vehicle simulations, geometry optimization, mesh generation, direct numerical simulation.

Education

Aug. 2015 - May 2019 | **Colorado State University**
Bachelor of Science in Mechanical Engineering. GPA 3.86 /4.0
Department rank: 7 of 227
Bachelor of Science in Applied Mathematics. GPA 3.98 /4.0
Department rank: 1 of 55

Aug. 2013 - May 2015 | **Pikes Peak Community College**
Associate of Science. GPA 3.85/4.0

Relevant Research Experience

May 2018 - Present | **CSU Laboratory for Mathematics in the Sciences**
Undergraduate Research Assistant
Developed computational fluid dynamic model for experimental vapor-to-particle reaction system. Modeled reacting flow, nucleation, and aggregation phenomena.

Aug. 2017 - Jan. 2018 | **CSU Computational Fluid Dynamics and Propulsion Laboratory**
Undergraduate Research Assistant
Investigated filtering schemes for LES codes and quantification of error propagation upon application of filtering schemes.

Work Experience

Sep. 2015 - Present | **CSU 3D Printing & Scanning Laboratory**
Digital Processing Technician
Oversaw digital operations for 3D printing and scanning laboratory, generated CAD models and developed custom pre- and post-processing procedures for additive manufacturing model generation. Developed .NET applications for handling financial operations and data storage.

May 2017 - Aug. 2017 | **NASA Space Grant DemoSat Project**
Intern
Developed microcontroller-based high-altitude device designed to investigate Magnus Lift as a means of free-fall stabilization for high-altitude payloads.

Relevant Undergraduate Projects

May 2018 | **"FlowBox" Custom CFD Code and Linear PDE Solving Framework**
Developed a custom CFD code and linear PDE solving framework in .NET C# in completion of undergraduate mathematics capstone project, implemented novel meshing and solving techniques. Received first-place award for undergraduate mathematical research from CSU Department of Mathematics.

May 2017 | **Elastic Plane Wave Simulation**
Developed explicit numerical solver in .NET C# for the purpose of solving 2-dimensional wave equation. Investigated models for effects of nonlinear elasticity. Awarded first-place prize at annual undergraduate poster conference.

Conference Presentations

January 2019 | **Fluid Dynamic Modeling of Vapor-to-Particle Reaction Systems**
Joint Mathematics Meeting, Baltimore, MD.

April 2018 | **Mesh-Morphing on a Rectangular Domain via an Iterative Gradient-Ascent Algorithm**
Southwestern Undergraduate Mathematical Research Conference, Albuquerque, NM.

Awards and Honors

Dec 2017	William Lowell Putnam Mathematical Competition, Ranked 693 in North America
May 2017, May 2018	Best Undergraduate Research, CSU Department of Mathematics
Aug. 2017	Robert Mock Memorial Scholarship
Dec. 2015, Dec. 2016, May 2017, Dec. 2017	CSU College of Engineering Dean's List
May 2015	CSU Green and Gold Scholarship

Professional Memberships

(i) ASME
(ii) AIAA
(iii) SIAM