



The Artificial Intelligence for Design (AI4D) lab seeks multiple highly motivated Ph.D. applicants with an enthusiasm for research and interest in scientific machine learning, computational physics, design and optimization, fluid dynamics, and aerodynamics. In the AI4D lab, we develop state-of-the-art mathematical solutions and novel data-driven (i.e., deep learning) algorithms with target of applying multi-disciplinary design optimization (MDO) to solve large-scale design and optimization problems in complex systems, especially in fluid dynamics. The PhD positions are fully funded (the coverage is tuition, insurance, and stipend) with possible opportunities to collaborate with other industrial and academic partners.

### Required qualifications:

- Have a Masters degree in Mechanical, Aerospace, or Applied Mathematics related to fluid dynamics.
- Have hands-on experience in AI/ML, reduced-order modeling, and computational methods.
- Experience in programming with Python, Julia, or C++.
- Good knowledge of fluid mechanics, aerodynamics, and turbulence.
- Experience in CFD software development or good knowledge of algorithms used in CFD methods.

Interested applicants should email a brief cover letter and CV to:

Dr. Hamid R. Karbasian

Incoming Assistant Professor in AI-Powered Digital Engineering System (Currently a Postdoctoral Associate at MIT)

Department of Mechanical Engineering

Lyle School of Engineering

Southern Methodist University

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Southern Methodist University (SMU) is a prestigious private university located in the heart of Dallas, Texas. It ranks among the top universities in the nation, providing an extensive campus and a life-changing education. SMU has two brand-new HPC centers (ranked 3<sup>rd</sup> in Texas) for computational and AI/ML projects. Furthermore, Dallas is the 4<sup>th</sup> largest metropolitan area and the 9<sup>th</sup> most populated city in the United States. It is one of the top-ranked cities for cultural diversity and economic opportunity. Dallas offers a unique combination of urban sophistication and southern hospitality. From world-class museums and theaters to outdoor recreational activities, Dallas has something to offer for everyone.

