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## Research Interests

Low-Mach-number flows, Pressure Projection Methods, Modified Equations, Machine Learning, Computational Fluid Dynamics, Simulation Science .

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## Education

- 2017–      Ph.D. Candidate / University of Utah, Salt Lake City Utah
- 2013–17    Bachelor in Mechanical Engineering / Notre Dame University, Zouk Mosbeh, Lebanon
- Graduated with a GPA of 3.89, Highest distinction.
  - Dean's List for all semesters
  - Scholarship: 75% Scholarship, all semesters

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## Skills

### Communication Skills:

- Leadership skills
  - President of the American Society of Mechanical Engineers student section at NDU-North Lebanon Campus in 2013-2014.
- Languages
  - English (Good)
  - French (Fair)
  - Arabic (Native Language)

### Computer Skills:

Python, Sympy (symbolic library Python), Sci-kit Learn, Tensorflow, C++, object oriented programming, Matlab, Web app development using Dash Python, Latex.

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## Publications

### Conference Papers

- 2018      Tony Saad, **Mokbel Karam**, and James C. Sutherland. "An Explicit Variable-Density Projection Method for Low-Mach Reacting Flows on Structured Uniform Grids", 2018 Fluid Dynamics Conference, AIAA AVIATION Forum, (AIAA 2018-4266)

## Presentations

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- 2018      **Mokbel Karam**, Fady Najjar, Ming Jiang, James Sutherland, and Tony Saad. "Applying Machine Learning to the Sedov-von Neumann-Taylor Blast Wave", 2018 Rocky Mountain Fluid Mechanics (RMFM) Research Symposium.

## Experience

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- 2018      Gained 10 weeks of experience in Machine Learning at Lawrence Livermore National Laboratory, Livermore CA , from June 4th to August 10th.
- 2016      Gained one month of experience in maintenance of kilns at a cement plant, August 2016
- 2016      Gained one month of experience in maintenance of refrigeration system at a poultry company, July 2016
- Have been tutoring Math and physics lessons for high school students.

## Reference

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### **Prof. Tony Saad**

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### **Prof. Michel el Hayek**

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