

# Leila Ghaffari

Curriculum Vitae

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## EDUCATION

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- **University of Colorado Boulder** Boulder, CO  
*PhD in Computer Science; anticipated graduation 2024* *Aug. 2019 – Present*
- **Sharif University of Technology** Tehran, Iran  
*M.Sc in Chemical Engineering; GPA: 3.8* *Sep. 2013 – Jan. 2016*
- **University of Tehran** Tehran, Iran  
*B.Sc in Chemical Engineering; GPA: 3.0* *Sep. 2006 – Jan. 2011*

## EXPERIENCE

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- **University of Colorado Boulder** Boulder, CO  
*Graduate Research Assistant* *Apr. 2020 - Present*  
  
Contributing to the development of [libCEED](#), a new open-source mathematical software library for High-Performance Scientific Computing under the supervision of [Jed Brown](#) within the Center for Efficient Exascale Discretizations ([CEED](#)) of the Exascale Computing Project ([ECP](#)).
- **University of Colorado Boulder** Boulder, CO  
*Collaborating Researcher* *Apr. 2019 - Apr. 2020*  
  
Using [PETSc](#), expanded a Navier-Stokes solver mini-app for compressible gas dynamics in a three-dimensional geometry in libCEED in collaboration with [Kenneth Jansen](#).
- **Universite d'Avignon et des Pays du Vaucluse** Avignon, France  
*Intern* *Jan. 2017 - June 2017*  
  
Developed environmental-friendly chemical processes.
- **Sharif University of Technology** Tehran, Iran  
*Graduate Research Assistant* *Feb. 2014 - Jan. 2016*  
  
Designed a bioreactor for Sulfate reducing processes and studied the experimental consistency of the observations with theory.
- **Tehran Oil Refinery Company** Tehran, Iran  
*Intern* *June 2009 - Sep. 2009*  
  
Studied the Health, Safety and Environment (HSE) management of the Tehran Oil Refinery Company.

## TECHNICAL SKILLS

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- **Programming Languages:** C/C++, Python, R, MATLAB
- **Software and Tools:** Git, Make, Snakemake, Travis CI, Linux Bash, Valgrind, GNU Debugger,  $\text{\LaTeX}$ , AutoCAD, SOLIDWORKS, ChemCAD, Aspen HYSYS
- **High-Performance Computing:** Intel Advisor, MPI, MPI I/O, OpenMP, Slurm

## PUBLICATIONS

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- Boublenza I, Lazouni HA, **Ghaffari L**, Ruiz K, Fabiano-Tixier AS, Chemat F, Influence of roasting on sensory, antioxidant, aromas, and physicochemical properties of carob pod powder (*Ceratonia siliqua* L.). J Food Qual 2017:1-10. [doi:10.1155/2017/4193672](https://doi.org/10.1155/2017/4193672)

## TECHNICAL REPORTS

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- Abdelfattah A., Barra V., Beams N., Brown J., Camier J. S., Dobrev V., Dudouit Y., **Ghaffari L.**, Kolev T., Medina D., Rathnayake T., Thompson J. L., Tomov S., libCEED User Manual, Version 0.7, Zenodo, September 2020. [doi:10.5281/zenodo.4302737](https://doi.org/10.5281/zenodo.4302737)

## CONTRIBUTED TALKS

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- **European Seminar on Computing** Pilsen, Czech Republic  
*ESCO 2020* June 2020  
Towards Exascale Computing: Vectorized Operator Evaluations on Heterogeneous Architectures with libCEED  
Valeria Barra, Jeremy Thompson, **Leila Ghaffari**, Yohann Dudouit, and Jed Brown

## POSTERS

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- **Women in High Performance Computing Summit** Vancouver, Canada  
*WHPC* Apr. 2020  
An open-source library for high-performance computing on heterogeneous architectures: libCEED  
Valeria Barra, Jed Brown, Yohann Dudouit, **Leila Ghaffari**, and Jeremy Thompson

## HONORS AND AWARDS

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- **Clive Baillie Memorial Fellowship (\$1000)** Boulder, CO  
*Computer Science Department at CU Boulder* Oct. 2020  
Awarded from the Department of Computer Science at CU Boulder to attend the 2021 SIAM Conference on Computational Science and Engineering (CSE2021).

## TEACHING EXPERIENCE

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- **University of Tehran** Tehran, Iran  
*Process Design with HYSYS* Jan. 2011 - May 2011  
Teaching assistant for **Computer Aided Process Design and Simulation with Aspen HYSYS**, a chemical process simulator used to mathematically model chemical processes, at the Chemical Engineering Department.