# Amin Ghafari

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## Education

- **Ph.D.** in Mechanical Engineering, Minors: Mathematics & Physics, [GPA: 4.0/4.0] **UC Berkeley**, CA
  **Dissertation:** *Development of a solver for thermal analysis of a nano-structure* 2014-Dec. 2019(exp)
- **M.Sc.** in Mechanical Engineering, [GPA: 4.0/4.0] **UC Berkeley**, CA
  **Thesis:** *Numerical study of heat transfer across a nanoscale gap due to phonon tunneling* 2017
- **B.Sc.** in Mechanical Engineering, [GPA: 3.99/4.0] Sharif University of Technology, Iran
  **Thesis:** *Simulation of dusty plasma in a micro-fabrication process* 2010-2014

## Research Interests

- Numerical Simulations and Modeling
- Photonics, Phononics and Thermal Physics

## Experience

- **Graduate Student Researcher**, UC Berkeley, Advisor: David B. Bogy 2014-Present
  Contributed to the development of the theory of heat transfer in nanoscale due to photons and phonons
  Developed a solver for the governing integral equations of the developed heat transfer theory in MATLAB
- **Internship,** Microfluidics and Cell Laboratory, Sharif University of Technology, Iran Summer 2012
  Studied the feasibility of designing and manufacturing of a blood cell counter
- **Teaching Assistant,** Sharif University of Technology, Iran Spring 2013
  Machine Elements Design, Fluid Mechanics
- **Leadership Experience,** UC Berkeley 2018-Present
  Lead Organizer at Iranian Student Association at America (a registered student organization)

## Honors and Awards

- **The Graduate Division Nano Block Grant Award**, UC Berkeley 2018
- **Otto and Herta F. Kornei Endowment Fellowship**, UC Berkeley 2017
- **The Graduate Division Block Grant Award**, UC Berkeley 2015 & 2017
- **Merit-based Admission Offer to the M.Sc. program** Jan. 2013
  Mechanical Engineering Department, Sharif University of Technology, Tehran, Iran.
- **Ranked 3$^{rd}$**(120 students), ME Department, Sharif University of Technology, Iran 2014
- **Ranked 39$^{th}$**, National University Entrance Exam (among 300,000+ participants), Iran 2010

## Recent Publications

- *Controlled heat flux measurement across a closing nanoscale gap* Applied Physics Letters, 2016
  Ma, **Ghafari**, Budaev, Bogy
- *Intense radiative heat transport across a nano-scale gap* Journal of Applied Physics, 2016
  Budaev, **Ghafari**, Bogy
- *Measurement and simulation of nanoscale HDI heat transfer using a PMR head* IEEE , 2017
  Ma, **Ghafari**, Budaev, Bogy

## Software Skills

- **Programming**: Python, C++, C#, Fortran
- **Software**: MATLAB, ANSYS, COMSOL, Unity, Git, OpenCV, TensorFlow