

Amin Ghafari

☎: 510-710-3496 ✉: amin.ghafari@berkeley.edu

🌐: aminghafari.com 📄: [AminGhafari](https://www.linkedin.com/in/AminGhafari) 🐙: github.com/aminghafari

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 design* 2014-May 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: *Plasma Simulation and Dusty plasma in a micro-fabrication processes* 2010-2014

RESEARCH INTERESTS

- ◇ Numerical Simulations and Modeling
- ◇ Multi-scale Heat Transfer & Thermal Physics
- ◇ Deep Learning and Computer Vision

SELECTED SIDE PROJECTS

- ▷ **Deep Inverse Reinforcement Learning:** Implemented algorithms to Reduce Human's Burden for training a robot-like agent to perform a specific task Deep Reinforcement Learning
- ▷ **Autonomous Mapping and Navigation:** Wrote a computer vision pipeline for color thresholding, and required transformations to complete the task of navigation in a simulation Robotics Course
- ▷ **3D Perception:** Created a perception pipeline to perform object recognition then successfully completed a tabletop pick and place operation using a PR2 robot in simulation Robotics Course
- ▷ **Follow Me:** Built and trained a fully convolutional network to find a specific person in images from a simulated drone Robotics Course
- ▷ **Ray Tracing:** Implemented a physically-based renderer using path tracing Computer Graphics
- ▷ **Cloth Simulation:** Implemented a cloth simulator for animation purposes Computer Graphics

EXPERIENCE

- ▷ **Graduate Student Researcher**, UC Berkeley, Advisor: [David B. Bogy](#) 2014-Present
- ▷ **Internship**, Microfluid lab, Sharif University of Technology, Iran 2012
Studied in extense the feasibility of designing and manufacturing of a blood cell counter

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

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