Amin Ghafari Zeydabadi

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Education

- **Ph.D. Candidate, University of California, Berkeley**, 2014-2019
  Major: Mechanical Engineering, Minors: Mathematics & Physics, (GPA : 4.0/4.0)
- **B.Sc. Sharif University of Technology, Mechanical Engineering** 2010-2014
  GPA : (3.99/4.0) (Ranked 3rd student among 120 co-students)

Interests

- Numerical Simulations and Modeling
- Finite Element Analysis
- Continuum Mechanics
- Multi-scale Heat Transfer
- Computer Graphics & Game Development
- Deep Learning

Working Experiences

- **Graduate Student Researcher, Computer Mechanics Laboratory, UC Berkeley**
  Adviser: David B. Bogy 2014-Present
  Thermal analysis of a multilayer nano-structure for an HDD slider design.
- **B.Sc. Thesis,** Simulation of plasma, with particles produced in a micro-fabrication processes 2014
- **Trainee,** A Feasibility Study on Designing and Manufacturing a Blood Cell Counter, 2012
- **Teaching Assistant,** Machine Element Design, Fluid Mechanics 2013

Selected Publications

- Ma, **Ghafari**, Budaev, & Bogy, (2016). Controlled heat flux measurement across a closing nanoscale gap and its comparison to theory. Applied Physics Letters, 108(21), 213105.
- Budaev, **Ghafari**, & Bogy, (2016). Intense radiative heat transport across a nano-scale gap. Journal of Applied Physics, 119(14), 144501.

Course Projects

- Implementing mesh editor to modify the mesh files from Blender, etc. — Computer Graphics
- Implementing a physically-based renderer using path tracing — Computer Graphics
- Implementing a cloth simulator for animation purposes — Computer Graphics
- Realistic rendering of ice — Computer Graphics
- Modeling Brownian Motion of Gas Molecules, MATLAB — Aerosol Transport
- Analysis and Simulation of a MEMS Gyroscope, MATLAB — Automatic Control
- Design a pedestrian bridge; analyzed by ANSYS — Machine Element Design

Computer Skills

- **Programming**: C++/C#, Python, Fortran
- **Deep Learning**: TensorFlow
- **Software Skill**: MATLAB, ANSYS, Unity, Git

Honors and Awards

- Otto and Herta F. Kornei Endowment Fellowship, UC Berkeley 2017
- The Graduate Division Block Grant Award, UC Berkeley 2015 & 2017
- Ranked 3rd(120 Co-students), ME Department, Sharif University of Technology 2014
- Ranked 39th, National University Entrance Exam(300,000+ participants), Iran 2010

Certificates (Coursera)

- Machine Learning, Stanford University
- Game Programming with C#, U of Colorado
- Intro. to Game Development, MSU
- Principles of Game Design, MSU
- Business of Games and Entrepreneurship, MSU
- Game Development for Modern Platforms, MSU

Highlighted Courses

- Introduction to CFD
- Machine Element Design
- Automatic Control
- Advanced Fluid Mechanics
- Numerical Solutions of ODE
- Numerical Solutions of PDE
- Statistical Physics
- Classical Electromagnetism
- Finite Element Methods
- Advanced Matrix Computation
- Computer Graphics
- Deep Learning

Reference

- **David B. Bogy**, (Ph.D. Adviser) : dbogy@berkeley.edu : http://www.me.berkeley.edu/faculty/bogy/