

Deric Session

Curriculum Vitae

M +1 (801) 906 9152
E dericsession@gmail.com

Education

Physics HBS/Applied Mathematics BS, **2014–05/2018**
University of Utah, Salt Lake City,
Magna Cum Laude,
Cumulative GPA: 3.984.

Undergraduate Honors Thesis

Title: *Mechanical Resonators Based on Graphene Heterostructures*

Supervisor: Vikram Deshpande, Ph.D.

Description: We fabricated micro-scale graphene heterostructures and resonated them. Specifically, we fabricated boron nitride-graphene mechanical resonators as well as graphene mechanical resonators.

Experience

Research

Graduate Research Assistant, **08/2019–present**
Mohammad Hafezi, Ph.D., University of Maryland,
Conduct research in a 2D materials experiment lab.

Research Assistant, Vikram Deshpande, Ph.D., **2017–08/2019**
University of Utah.

Assisted a graduate student in an experimental condensed matter physics lab. I mostly worked with fabricating BN-graphene mechanical resonators as well as analyzing the data obtained from measurements.

Jobs in the Lab:

- Created BN-graphene stacks;
- Used an AFM to analyze stacks;
- Used Python to recreate and expand on analytic models;
- Used Python to analyze data from the resonators.

Research Assistant, Elena Cherkaev, Ph.D., **2018–08/2019**
University of Utah.

Worked with a math professor on a random-matrix theory project. In particular, I developed MATLAB code to explore the spectral unfolding of Gaussian distributed matrices and Adjacency matrices.

Research Assistant, Inese Ivans, Ph.D., **2015–2016**
University of Utah.

Analyzed stellar spectra using equivalent width measurements to calculate abundances.

Miscellaneous

Grader, 08/2018–12/2018

University of Utah,

Department of Physics and Astronomy.

Graded homework and exams for the Fall 2018 Solid State Physics course.

Learning Assistant, 2017–2018

University of Utah,

Department of Physics and Astronomy.

Assisted in elementary electricity and magnetism class discussion sections by answering group as well as individual student's questions, I also held office hours to help students with homework.

Youth Mentor, Big Brothers Big Sisters of Utah, 2017–2019

Salt Lake City, UT.

I mentored an eleven year old boy. We met twice a month to do activities together.

Engineering Technician, 07/2014–08/2014

Fairchild Semiconductor, West Jordan, UT.

Prepared reports on device checks. I also went into the fabrication facility to pull wafers and used a focused ion beam electron microscope to analyze some structures.

Computer Programming Languages/Software

Python: Proficient

MATLAB: Proficient

Mathematica: Familiar

C/C++: Somewhat Familiar

Microsoft Office: Word, Excel, Power Point

L^AT_EX: Used to create this document

Scholarships/Awards

- University of Maryland Physics Department Dean's Fellowship (2019)
- University of Utah Physics Departmental Scholarship (2017 and 2016)
- Thomas J. Parmley Scholarship (2016)
- Walter W. Wada Endowed Scholarship (2015)
- Deans List (Fall 2014–Spring 2018)
- University of Utah Trustees Scholarship (2014)
- Utah Regents' Scholarship (2014)

Research Internships/Presentations

- 2018 APS Four-Corners Meeting Poster: (*Fabrication and Testing of BN-Graphene Mechanical Resonators*)
- 2018 University of Utah Department of Physics and Astronomy Research Internship

- 2017 Summer University of Utah Undergraduate Research Symposium
Poster: (*Fabrication and Characterization of Graphene-Boron Nitride Mechanical Resonators*)
- 2017 University of Utah Physics REU