



# Damyn Chipman

PHD STUDENT · COMPUTATIONAL SCIENTIST

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## Education

### Boise State University

PHD IN COMPUTING

*Expected Graduation: 2023*

*Boise, ID*

- Emphasis: Computational Sciences and Engineering
- Current Research: Fast and Scalable Direct Elliptic Solvers on Adaptive Meshes
- GPA: 3.5 / 4.0

### Brigham Young University

BACHELOR OF SCIENCE IN APPLIED PHYSICS

*April 2019*

*Provo, UT*

- Emphasis: Computational Physics and Engineering
- Senior Thesis: Aerodynamics Modeling Using a Mesh-Free Approach
- GPA: 3.2 / 4.0

## Work and Research Experience

### Mission Support and Test Services (MSTS), LLC

ASSOCIATE IN SCIENCE

*June 2019 - Present*

*Las Vegas, NV and Livermore, CA*

- Support multiple projects with a computational emphasis to develop tools for mission critical diagnostic equipment
- Implemented an axis correction algorithm using machine learning techniques
- Developed an image processing software package for neutron image data analysis
- Presented work at Lawrence Livermore National Laboratory and for the Senior Leadership Team and Directorate of MSTS

### Boise State University Mathematics Department

GRADUATE ASSISTANT

*August 2019 - December 2019*

*Boise, ID*

- Assist in teaching upper-level undergraduate course in scientific computing

### Flight, Optimization and Wind (FLOW) Lab

RESEARCH ASSISTANT

*April 2018 - May 2019*

*Provo, UT*

- Designed and developed a Vortex Sheet Boundary package (VSB.jl) for Vortex Particle Method Integration
- Modeling of Propeller-Wing Interaction using Radial Basis Functions for Mesh-less and Panel Free Analysis with Vortex Particle Method

### Advanced Power Cycles Lab

RESEARCH ASSISTANT

*June 2016 - April 2018*

*Provo, UT*

- Developed a 1, 2, and 3-Stage Optimized Rankine Power Cycle model for Nuclear Power Application
- Assisted in formulation, testing, and verification of Water-Ammonia Thermodynamic Property Package code

### Brigham Young University Physics Department

TEACHING ASSISTANT

*August 2016 - April 2018*

*Provo, UT*

- Assisted professors in teaching and grading for introductory to advanced physics classes, including computational physics lab sequence
- Implemented new teaching program for 150+ students
- Oversaw sections of 20-30 students as Recitation Section Leader

## Skills and Goals

<b>Programming</b>	C/C++, Python, MATLAB, Fortran, Julia, Mathematica, Git, LaTeX
<b>Numerical</b>	Machine Learning, Finite Difference, Finite Element, Numerical Methods, Image Processing, Optimization
<b>Software</b>	MPI, CUDA, LAPACK, MOOSE, p4est, ParaView, sklearn
<b>Languages</b>	English, Spanish

<b>Effective</b>	Be an effective and hard working example of the establishment that I represent
<b>Efficient</b>	Efficiently solve any problem presented to me through effective problem solving skills
<b>Optimistic</b>	Always maintain an optimistic attitude when working; individually and in teams
<b>Dedicated</b>	Challenge myself by developing additional talents and seeking more knowledge

## Publications and Conferences

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### Characterizing On-Axis X-Ray Spectra with Off-Axis Detectors

STUDENT PROGRAM PRESENTATION

- End of summer presentation to MSTs mission directorate

August 2020

Las Vegas, NV

### Image Processing and Reconstruction of Neutron and X-Ray Images

POSTER SESSION AND EXECUTIVE PRESENTATION

- Lawrence Livermore Student Symposium Poster Session
- Presentation to Senior Leadership Team and Directorate of MSTs

August 2019

Livermore, CA and Las Vegas, NV

### Aerodynamics Modeling Using a Mesh-Free Approach

CONFERENCE PRESENTATION

- Utah Conference for Undergraduate Research
- BYU Student Research Conference

April 2019

Ogden and Provo, Utah

### Suitability of the Kalina Cycle for Power Conversion from Pressurized Water Reactors

JOURNAL ARTICLE

- J. Webster, P. Wilding, **D. Chipman**, M. Memmott
- Revised draft submitted to Energy

2018

### Energy... It's Everywhere! Forms of Energy - Sound, Light, Heat, and Electricity

STEMTAUGHT JOURNAL

- **D. Chipman**
- Elementary School Journal

2018

## Honors and Awards

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**2020** MSTs Hot Shot Award for Exceptional Work

**2019** Boise State University Graduate Assistant Fellowship

**2019** Brigham Young University Graduate Assistant Fellowship

**2013** Eagle Scout Award from Boy Scouts of America

## Volunteer Work

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### The Church of Jesus Christ of Latter-day Saints

YOUTH LEADER

- Assist in overseeing youth activities and teaching
- Plan and organize events for youth

January 2020 - Present

Boise, Idaho

### The Church of Jesus Christ of Latter-day Saints

VOLUNTEER MISSIONARY

- Served as religious representative in the Mexico City Northwest Mission, providing large and small scale community service
- Oversaw 20-30 other volunteers through training in communication, problem solving, and volunteer strategy

August 2013 - August 2015

Mexico City, Mexico

### Las Vegas Bureau of Land Management

EAGLE SCOUT

- Organized over 300 volunteers for large scale cleaning project at Mount Charleston in Las Vegas
- Trained local site leaders in safety precautions and project procedures

February 2011 - May 2011

Las Vegas, NV

## Clubs and Societies

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**SIAM** Society of Industrial and Applied Mathematics (Boise State Chapter)

**BSUA** Boise State University Alpine Club

**ANS** American Nuclear Society (Brigham Young University Chapter)