

# Daniel Mishler

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## A BRIEF NOTE TO THE READER

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To whomever reads my CV,

I'm a third year PhD candidate at the University of Tennessee looking for where to focus for my thesis. I am open to collaboration and mainly focusing on parallelism, memory, visualization, and PGAS - just send an email to the email above. And may your day be fulfilling, productive, and lived with exactly the right amount of dissatisfaction.

Daniel

## EDUCATION

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### University of Tennessee

GPA: 4.00/4.00

- Ph.D. in Computer Engineering

Knoxville, Tennessee

2021-present

### Indiana University, Bloomington

GPA: 4.00/4.00

- B.S. in Intelligent Systems Engineering
- B.S. in Physics

Bloomington, Indiana

2017-2021

## RESEARCH EXPERIENCE

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### Sandia National Laboratories

Graduate Research Intern - Scalable Algorithms (1465)

- Investigate the performance of device-initiated communication
- Report to my internship mentor Full time position.
- design and present papers and presentations for conferences that impact the lab missions
- Exposed RMA/PGAS technology through Kokkos Remote Spaces
- *As of the most recent version of this CV, we are planning to submit a paper and poster soon*

Albuquerque, NM

Summer 2023

### Innovative Computing Laboratory

Graduate Research Assistant - Distributed Computing Group

- Design software to harness full use of many-core machines.
- Report to the director of my group, contracted for 20 hours of research with class work. Full time during the summer.
- design and present papers and presentations for conferences and internal events.
- Currently answering the question: What motivates performance in task-based GEMM?

Knoxville, Tennessee

Summer 2021-Present

### Neutron Spin Rotation

Undergraduate in Dr. Mike Snow's Lab

- Creating instrument drivers in LabWindows for multiple instruments present in the apparatus

Bloomington, Indiana

Spring 2020-Summer 2021

- Project seeks to verify (or potentially disprove) predictions of the standard model at low temperatures

### PhysiCell

Undergraduate in Dr. Paul Macklin's "MathCancer" lab

Bloomington, Indiana  
Spring 2018 - Spring 2020

- PhysiCell is an extendable Free and Open Source software specializing in cell simulation to gain insights into cancer treatments
- Frontend development for PhysiCell and implementation of user guides
- Created 'xml2Jupyter', a software that generalizes any xml framework to an easily understandable frontend (This is where my publication stems from)

### OpenBCI

Brain Computer Interface, under Martin Swany, ISE dept. chair

Bloomington, Indiana  
Fall 2017

- OpenBCI: implement ways to control a remote control car using signals from the brain.
- Made heavy use of neural networks and 3D design to implement several sensors around the brain

## PUBLICATIONS

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- [1] **D. Mishler**, J. Ciesko, S. Olivier, and G. Bosilca, "( best student poster) Performance Insights into Device-initiated RMA using Kokkos Remote Spaces", in *2019 Journal of Open Source Software*, Oct. 30, 2023.
- [2] R. Heiland, **D. Mishler**, T. Zhang, E. Bower, and P. Macklin, "xml2jupyter", in *2019 Journal of Open Source Software*, Apr. 8, 2019, p. 01 408.

## TEACHING

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- **Undergraduate Instructor** at Indiana University Spring 2019,2020,2021  
*Software Systems Engineering (11688)*
- **Mathematics Tutor** at Indiana University (Academic Support Center) Fall 2018 - Spring 2020  
*Finite Mathematics, Calculus I-IV, Differential Equations*
- **Undergraduate Instructor** at Indiana University Fall 2019  
*Engineering Principles (10212)*

## SKILLS

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- **Programming Advanced:** C, Python
- **Programming Intermediate:** C++, Verilog, LabWindows, ARM, x86, SQL, (Jupyter)
- **Design:** Fusion360, Adobe (Illustrator, Premiere, & Photoshop), Cura, Trotec
- **Concepts:** Schedulers, Visualization, Networks, Operating Systems, Windows, Linux, Optimization, Databases, Natural Language Processing, Machine Learning

## PROJECTS

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DucreuOS

Operating Systems under Dr. Steven Marz

University of Tennessee  
Spring 2022-present

- Recreation of UNIX-style OS complete with graphics, memory management, multithreading, and processes in RISC-V. Originated in a particularly difficult experimental section of an operating systems course. [github link](#).

Pocket Scientist

Engineering Senior Capstone Project

Indiana University - Capstone  
Fall 2020-Spring 2021

- User focused web application with Database parser that scans papers and databases for claims to improve the reliability of information in the field. SoulWare Website.

Coup/Resistance  
Personal Project

Indiana University  
Summer 2020-present

- Coding common games on an online server to practice concepts

## SCHOLARSHIPS AND AWARDS

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- Bodenheimer Fellow 2022
- Cheng Wu Innovation Challenge - Finalist 2018,2021
- IU Founders Scholar/Dean's List 2018-2021
- Burnett-Masters scholar 2019

## EXTRACURRICULAR ACTIVITIES

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- Physics Club: Officer 2017–2021  
*Club meets weekly for discussion on Physics, talks from faculty, and planning. Responsible for planning majority of IU's Physics outreach, especially to children in elementary and middle school.*
- Dungeons and Dragons at IU: Founder 2018–2021  
*Largest active student organization at Indiana University. Club is an umbrella for people interested in playing Tabletop Roleplaying Games to find a community at IU.*
- Music involvement Fall 2008–Current  
*Have dedicated approximately 10,000 hours to music. Instruments include Trumpet, Piano, electric bass, Guitar, Ukulele, and voice. Play music for nonprofits/fundraisers multiple times a year and lead local worship bands.*

## NON-RESEARCH EMPLOYMENT

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### General Motors

Austin, Texas

Software Development at IT Innovation Center

Summer 2020

- Developed frontend/backend for data science models and internal company tools.
- Pioneered a new initiative to move data science at GM from a manual quarterly report to a consistent and automatically updated application.

### NSWC Crane

Crane, Indiana

Electrical Engineer - Radio Frequency Countermeasures

Summer 2019

- Testing and Evaluation for Department of Defense Naval Systems.
- Heavy work with radio hardware and signal propagation.