Ryan Sandberg

1484 W Chateau Vert, Ypsilanti, MI 48197
ryansand@umich.edu 801-592-9201
linkedin.com/in/ryan-sandberg-88060b44 https://rtsandberg.github.io

SUMMARY

Computational scientist with extensive experience in computational modeling equipped to apply analytical and technical skills to industry problems. Combines mathematical understanding, physical insight, technical ability, and clear communication to solve problems and present solutions. Effective teacher, tutor, and mentor. Loves to learn and develop new skills.

SKILLS AND EXPERTISE

- software development: C++, Python-Numpy, Pandas, and MATLAB
- high performance computing in Unix/Linux environment: OpenMP, OpenACC, CUDA and MPI
- algorithm development ◦ data analysis ◦ plasma physics modeling
- verbal and written communication ◦ multi-tasking ◦ interdisciplinary collaboration

EXPERIENCE

Research Assistant: computational plasma physics **UM**
Lagrangian methods, modeling and simulation of laser-plasma interactions *Jan 2018 – December 2021*

- Led math/physics collaboration as first author on 2 papers
- Developed and implemented novel algorithms for plasma simulation using Python and C++
- Coordinated research group meetings involving faculty, postdocs, and students
- Mentored 1 undergraduate student in original research

Graduate student instructor **UM**
Undergraduate mathematics: calculus, algebra *Sep 2015 – April 2018*

- Prepared lectures, taught classes, prepared exams, graded exams

Research Assistant: abstract algebra **BYU**
Derived new Landau-Ginsberg B-model algebra *Feb 2014 – June 2015*

- Wrote Master's thesis, presented in 2 conferences

Research Assistant: visualization and modeling **BYU**
Computational study of relativistic electron wave packet in intense laser field *May 2011 – Aug 2013*

- Developed scientific visualizations in MATLAB, presented in 2 undergraduate conferences
- Performed MATLAB simulation and modeling, contributed to one publication

EDUCATION

University of Michigan **Ann Arbor, MI**
PhD in Applied and Interdisciplinary Mathematics and Scientific Computing *December 2021(Expected)*
Honors & activities: Michigan computational (MICDE) graduate fellow, APS and SIAM member

Brigham Young University **Provo, UT**
MS in Mathematics *July 2015*
Honors & activities: AMS member

Brigham Young University **Provo, UT**
BS in Physics, Magna Cum Laude, Minor in Chemistry and Mathematics *April 2013*