Kristina Stuckey

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Education

University of Southern California August 2020– Present
Doctor of Philosophy, Mechanical Engineering GPA 4.0

San Diego State University August 2018 – May 2020
Master of Science, Applied Mathematics GPA 3.83
Concentration in Nonlinear Dynamical Systems and Chaos

University of California, Santa Barbara September 2014 – June 2018
Bachelor of Science, Mathematical Sciences
Minor in Physics

Research Experience

Master's Thesis – Developing Data Driven Methods to Investigate Complex Flows in Bose-Einstein Condensates October 2018 – May 2020

- Simulated complex flow by implementing Gross-Pitaevskii equation with randomized forcing
- Applied Dynamic Mode Decomposition in order to reduce the dimensionality of the complex system
- Employed machine learning techniques to identify and track vortex paths

Work Experience

Teaching Assistant, Calculus II, San Diego State University August 2019 – Present

- Directed semiweekly sessions for two sections per semester with 30 students each
- Held week office hours to provide tutoring, counseling, or assistance to students in need
- Assisted in proctoring and grading exams and weekly assignments

Engineering Clerk Intern, Boston Semi Equipment, Billerica, MA June 2018 – August 2018

- Developed spreadsheets and analyzed chart data to define trends and obtain results
- Collated, organized, expedited and tracked Engineering Materials

Relevant Coursework & Skills

Mathematics: Stochastic Modeling, Numerical Optimization, Finite Difference Methods, Mathematical Modeling, Discrete and Continuous Dynamical Systems, Ordinary and Partial Differential Equations, Numerical Analysis, Advanced Linear Algebra
Computer Programming: Matlab, Python, C++, Maple, LaTeX, Microsoft Excel, R
Physics: Fluid Mechanics, Classical Mechanics, Quantum Mechanics, Introduction to Relativity
Statistics: Advanced Probability and Statistics, Regression Analysis

Programming Experience

Matlab: Machine Learning Algorithms, Numerical Optimization, Finite Difference Schemes, Discrete and Continuous Mathematical Models, Bifurcation Analysis, Markov Chain Monte Carlo, Stochastic Modeling
Python: Numerical Integration, Periodic Functions, Numerical Linear Algebra, Spectral Methods