

Joseph Thurman, Ph.D.

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EDUCATION

Stony Brook University
Ph.D. in Mathematics

Aug 2018
Stony Brook, NY

Vanderbilt University
B.S. in Mathematics with Honors, *summa cum laude*

May 2011
Nashville, TN

WORK EXPERIENCE

Graduate Research Assistant, Stony Brook University

Aug 2011 – Aug 2018

- Developed improved methods for constructing quaternionic complex manifolds and Kähler metrics in the context of quaternionic geometry
- Proved a new characterization of the hyperkähler Swann bundle associated to a quaternion-Kähler manifold using twistor theory
- Completed coursework in a variety of topics in advanced mathematics, including linear algebra, differential equations, probability and measure theory, differential geometry, and abstract algebra

Graduate Teaching Assistant, Stony Brook University

Aug 2011 – Aug 2018

- Effectively communicated complex mathematical ideas from pre-calculus to graduate-level topics to students with a variety of abilities and backgrounds
- Consistently received excellent rating in student feedback

Private Tutor, Self-Employed

June 2015 - Present

- Provided one-on-one tutoring in math, physics, and SAT/ACT preparation for high school students

SKILLS

Quantitative Finance and Data Analysis

- Basic Option Pricing – Black-Scholes-Merton model, Monte Carlo and binomial methods for pricing European, American, and Asian options
- Classical Statistical Analysis – Hypothesis and significance testing, generalized linear models
- Machine Learning – General methods (model selection and evaluation, cross-validation, feature engineering), support vector machines, naïve Bayes, k-means clustering, k-nearest neighbor, ensemble methods, neural networks

Programming Languages and Software

- Python, including numpy, pandas, scikit-learn, matplotlib and seaborn
- R, including tidyverse (plyr, dplyr, ggplot2, etc.) and caret
- Mathematica
- LaTeX

ACADEMIC HONORS AND AWARDS

- **Graduate Council Fellowship**, Stony Brook University, 2011- 2016
- **Richard Larsen Award for Achievement in Mathematics**, Vanderbilt University, 2011