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## Post-Secondary Education

**PhD:** Kansas State University, Mathematics (December 9, 2016)

**Professional Training:** The Data Incubator, Data Science (November 11, 2016)

## Relevant Skills

**Primary Languages and Frameworks:** R, Matlab, Git, Python, MapReduce/PySpark, Numpy, Scipy,

**Secondary Languages and Frameworks:** SAS, SQL, PostgreSQL, SPSS

## Data Science Experience

- Data Incubator weekly projects utilizing *Python, Pandas, SciPy, NumPy, Hadoop, MapReduce, Spark, SQL, Scikit learn, and Bash*
- Powerhouse SunRun 2017 hackathon entry: team Clean Coal. Worked with industry experts to write software controlling the charging and discharging of a battery array, optimizing with respect to both battery life from a constructed battery model and cost to buy/sell to grid from Time of Use rate plans.
- *A Strava based app* Implementing a search feature of Strava's user created cycling and running routes. Setup a remote database for the scraped data. Deployed to Heroku an API driven front-end to interface user-based queries to find routes near a specified location. *Amazon RDS, PostgreSQL, Heroku, Flask, RESTFUL API, AngularJS*

## Research Experience

- Completed final draft of PhD dissertation *Sheaves of differential operators and D-modules over non-commutative projective spaces* on non-commutative algebraic geometry and representation theory; collaborated on research, writing, and submission to academic journals.
- Organized and participated in Graduate Student Seminar in *Noncommutative Algebraic Geometry and Representation Theory*
- Presented poster on research with Bryan Bischof at MSJ-SI Osaka, International Conference on *Schubert Calculus: Deformations of differential operators on the big cell*.
- Organized and participated in special research seminar for Algebraic Geometry. Gave more than thirty seminar talks at KSU over the past four years in the Representation Theory Seminar, Graduate Student Seminar, and Noncommutative Algebraic Geometry Seminar.
- Consulted on the statistical aspects of research for other graduate students at KSU in Grain Science, Animal Science, Biology for the Statistical Consulting Lab.

## Teaching Responsibilities

- Taught fourteen semesters for Kansas State University's mathematics department, including College Algebra, General Calculus, Calculus I, II, and Matrix Theory studio.
- Coordinated Teaching of courses for other instructors, including development of course material, coordinated grading with undergrad graders, coordinated help sessions, in summers of 2010-2014
- Taught Introductory statistics in the Statistics department in 2007-2009