Lee Goerl, PhD

lgoerl@gmail.com
620-786-4561

github: github.com/lgoerl
blog: lgoerl.github.io

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:** utilized *Python, Pandas, SciPy, NumPy, Hadoop, MapReduce, Spark, SQL, Scikit learn, and Bash.* **Capstone:** Scraped & cleaned 2016 presidential candidate speeches and classified them by narrative type; clustered on tf-idf vectors, executed PCA on extracted setiment time series for each transcript to aid with interpretation.
- **Powerhouse SunRun 2017 hackathon entry:** Worked with industry experts to write optimization software to control charging and discharging of a battery array, optimizing both battery life vs. buy/sell grid cost for Time of Use rate plans. Responsible for data engineering, algorithm development, testing, and component integration. *Pandas, Pytest, Docker*
- **Development of a Strava based app:** Implemented 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

- Consulted on the statistical aspects of research for other graduate students at KSU in Grain Science, Animal Science, Biology for the Statistical Consulting Lab.
- Completed and defended final draft of PhD dissertation *Sheaves of differential operators and D-modules over non-commutative projective spaces* in non-commutative algebraic geometry and representation theory.
- Organized and participated in Graduate Student Seminar in *Non-commutative 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.

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