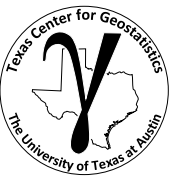


Outreach: Shared Resources

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When I started Twitter 1 year ago I was transitioning from industry to academia and I saw it as a chance to: (1) share resources for geostatistics, quantitative methods for exploring the spatial phenomenon, (2) add my voice to the chorus for science, diversity, respect, and mental health, (3) participate in outreach to students to encourage STEM and share my professional experience and (4) connect with the scientific community. Here's the resources that I have shared so far. I hope they are helpful! I welcome feedback and suggestions.

Statistics and Probability:

1. Probability Theory – my undergraduate lecture (<https://git.io/fNg4r>)
2. Statistics – undergraduate lecture (<https://git.io/fNg42>)
3. Marginal, Joint & Conditional Probability – slides (<https://git.io/fNg4K>)
4. Parametric Distributions
 1. How to make them (<https://git.io/fNgBs>) *Excel*
 2. Poisson distribution (<https://git.io/fNgBC>) *Excel*
 3. Gaussian transform (<https://git.io/fNgB4>) *Excel* (<https://git.io/fNgRZ>)
 4. Log normal distribution (<https://git.io/fNgBB>) *Excel*
5. Hypothesis Testing
 - a. Difference in means (<https://git.io/fNgBU>) *Excel*
 - b. Difference in variances (<https://git.io/fNgBT>) *Excel*
 - c. Difference in distributions (<https://git.io/fNgBO>) *Excel*
6. Demos of Bayesian Statistics
 - a. The Coin Problem from Sivia (1996) (<https://git.io/fNg47>) *Excel*
 - b. Bayesian updating with Gaussian (<https://git.io/fNg4F>) *Excel*
 - c. Probability given a positive test (<https://git.io/fNg4N>) *Excel*
7. Other
 - a. Bootstrap (<https://git.io/fNgB2>) *Excel* (<https://git.io/fNgRL>) *Python* (<https://git.io/fNgOP>) *R*
 - b. Spatial Bootstrap (<https://git.io/fNgRw>)
 - c. Linear regression (<https://git.io/fNgBd>) *Excel* (<https://git.io/fNgOA>) *R*
 - d. Loss functions (<https://git.io/fNgBx>) *Excel*

Heterogeneity:

1. Making an example well (<https://git.io/fNgBS>) *Excel*
2. Lorenz coefficient (<https://git.io/fNgBD>) *Excel*
3. Hurst coefficient (<https://git.io/fNgOd>) *R*

Machine Learning:

1. Dimensional reduction (<https://git.io/fNgRK>) *Python* (<https://git.io/fNgOD>) *R*
2. Decision tree (<https://git.io/f4do0>) *Python* (<https://git.io/fNg09>) *R*
3. Support vector machine (<https://git.io/fNgRP>) *Python*

Geostatistics:

1. 2D Short course on “Everything Geoscientists and Data Scientists Need to Know About Geostatistics”
 1. Lectures (<https://git.io/fNBqz>) *PPT*
 2. Exercises, hands-on and demonstrations (<https://git.io/fNBqr>) *PPT*
2. Simple wrapper / reimplementation of GSLIB in Python
 - a. Functions that reimplement or call GSLIB exes (<https://git.io/fNgR7>) *Python*
 - b. Demo of the functions (<https://git.io/fNgRb>) *Python*
3. Declustering (<https://git.io/fNgRs>) *Python*
4. Variogram calculation (<https://git.io/fNgBb>) *Excel* (<https://git.io/fNg0h>) *R*
5. Supplemental Slides:
 - a. Facies criteria (<https://git.io/fNg0s>) *PPT*
 - b. Value of quantification (<https://git.io/fNg0g>) *PPT*
 - c. Stationarity (<https://git.io/fNg0l>) *PPT*
 - d. Uncertainty (<https://git.io/fNg0R>) *PPT*
 - e. Suggested books (<https://git.io/fNg0u>) *PPT*
6. Simple kriging (<https://git.io/fNgBK>) *Excel* (<https://git.io/fNgON>) *R*
7. Convolution methods (<https://git.io/fNgR3>) *Python*
8. LU Simulation (<https://git.io/fNgRG>) *Python*
9. Sequential Gaussian simulation (<https://git.io/fNgB1>) *Excel* (<https://git.io/fNg0x>) *R*
10. Truncated Gaussian simulation (<https://git.io/fNgBN>) *Excel*
11. Spatial uncertainty (<https://git.io/fNg02l>) *Excel*
12. Volume-variance relations (<https://git.io/fNgRe>) *Excel*
13. Working with realizations (<https://git.io/fNgITF>) *R*
14. Lecture on value in industry (<https://git.io/fNg0O>) *PPT*

Coding:

1. Python Pandas DataFrames (<https://git.io/fNgRW>) *Python*
2. Python NumPy ndarrays (<https://git.io/fNgRu>) *Python*
3. Image file to GSLIB format (<https://git.io/fNgR2>) *Python*
4. GSLIB to R (<https://git.io/fNg0X>) *R*