

# Hope K. Snyder

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## Objective

Data scientist with 6+ years of experience in psychological data analysis and general data analytics. Co-founder of Code-RLadies (the mid-Missouri chapter of RLadies). Skilled in statistics, problem solving, R programming, and GIT integration. Interest in big data technologies, cloud computing, and database software.

## Skills & Abilities

### QUANTITATIVE SKILLS

- Probability Theory
- Statistical Theory
- Bayesian Data Analysis
- Item Response Modeling
- Categorical Data Analysis
- Multilevel Modeling
- Multivariate Predictive Modeling
- Multilevel Calculus
- Real Analysis

### RESEARCH SKILLS

- Experimental Design and Programming
- Data Analysis
- Data Visualization Tools
- Machine Learning Techniques

### SOFTWARE KNOWLEDGE

- R statistical software (Studio, Shiny, and Markdown, Tidyverse)
- SPSS
- SAS
- LaTeX
- MATLAB (Octave)
- AWS EC2 instances (minimal)
- Microsoft Office programs: Word, Excel, PowerPoint
- GIT and GitHub
- JAGS

### TRADITIONAL SKILLS

- Interpersonal Skills
- Perceptive
- Time-Management Skills
- Verbal and Written Communication
- Critical Thinking
- Active Learning

## Education

### UNIVERSITY OF MISSOURI | PRESENT | DOCTOR OF PHILOSOPHY IN QUANTITATIVE PSYCHOLOGY

- Advisor: Clinton Davis-Stober, PhD

## **UNIVERSITY OF MISSOURI | 2018 | MASTER OF ARTS IN PSYCHOLOGY**

- Thesis: A Bayesian Investigation into Inhibition Mechanisms of Contrast and Assimilation
- Advisor: Jeffrey N. Rouder, PhD.
- GPA: 3.938

## **WASHINGTON & JEFFERSON COLLEGE | 2014 | BACHELOR OF ARTS**

- Major: Mathematics and Psychology
- GPA: 3.82; Magna Cum Laude, 26<sup>th</sup> of 307; Beta Scholar
- Honors Societies: Alpha Lambda Delta, Pi Gamma Mu, Pi Mu Epsilon, Psi Chi, Phi Beta Kappa
- Activities: Math Club Treasurer, W&J Chapter of Pi Mu Epsilon Vice President, Wind Ensemble Member

## **GIRARD HIGH SCHOOL | 2010 | HIGH SCHOOL DIPLOMA**

- Honors Course of Study, Third in Class, GPA: 4.13
- Activities: Marching Band, Concert Band, Show Choir, Bell Choir, Theater—Nine productions

## **Experience**

### **JUNIOR DATA SCIENTIST | CARFAX, INC. | 5/2019 — 8/2019, 1/2020 — 3/2020**

- Leverage data science to increase revenue and decrease expenses
- Developed a geospatial web application to visualize fraud and identify new business leads
- Demonstrated business value of cloud computing (e.g. Azure) and data science platforms
- Developed optimized software in R to increase productivity of colleagues
- Communicated complex analyses and results to nontechnical audiences
- Developed prototype machine learning model to analyze customer retention
- Part of model building team for determining customer cost for business team in Canada

### **TEACHING ASSISTANT | UNIVERSITY OF MISSOURI | 8/2018 — PRESENT**

- Worked with students on individual and small group basis to reinforce learning
- Taught SPSS and R statistical software and provided technical support to students
- Mentored advanced students on individual projects

### **RESEARCH ASSISTANT | UNIVERSITY OF MISSOURI | 8/2016 — PRESENT**

- Researched constructs such as perception, attention and decision making
- Implemented Bayesian mathematical models to analyze data
- Programmed experimental trials and stimulus in Octave (MATLab).
- Received funding from University of Missouri Graduate School and Psychology department

### **ASSISTANT WEBSITE DESIGNER | W.I.S.E. CLAREMONT COLLEGES | 9/2014 — 6/2015**

- Transferred materials into new layout within WordPress jointly with a group
- Updated format to improve user experience
- Corrected and updated prior information about statistical measures
- <http://wise.cgu.edu>

### **RESEARCH ASSISTANT | KENT STATE UNIVERSITY | 6/2013 — 8/2013**

- Researched mathematical polynomial models to predict the maximum value

- Developed a program to estimate multiple predictive models in Java and instructed others through development of the program
- Received funding from Kent State University Mathematics department

## **RESEARCH ASSISTANT | WASHINGTON & JEFFERSON COLLEGE | 6/2012-8/2012**

- Researched mathematical theory behind familiar geometric shapes under different distance measurements
- Received funding from Mathematics Association of America and Washington & Jefferson Mathematics department

## **Publications**

- Davis-Stober, C. P., Snyder, H. K., Park, S., and Regenwetter, M. (2019) Cognitive Aging and Tests of Rationality. [DOI](#)
- Snyder, H. K., Rafferty, S. M., Haaf, J. M., & Rouder, J. N. (2019). Common or distinct attention mechanisms for contrast and assimilation? *Attention, Perception, & Psychophysics*, 1-7. [GitHub](#)
- Rouder, J. N., Haaf, J. M., & Snyder, H. K. (2019). Minimizing mistakes in psychological science. *Advances in Methods and Practices in Psychological Science*, 2(1), 3-11. [PsyArXiv](#) [GitHub](#)
- Haaf, J. M., Rhodes, S., Sun, T. K., Snyder, H. K., Naveh-Benjamin, M., & Rouder, J. (2018). Revisiting the remember-know task: Replications of Gardiner and Java (1990). [PsyArXiv](#)

## **Presentations**

- Snyder H. K. (2020) Building a Technical Toolkit: Some Helpful R Packages. Talk presented at the Quantitative Seminar at the University of Missouri, Columbia, MO.
- Snyder, H. K. & Landon, L. (2020). An Introduction to RStudio: How to Navigate and Useful Tips. Talk presented at Code-RLadies February meeting, Columbia, MO.
- Snyder, H. K. & Fitzsimmons, E. (2020). Getting R Installed and Working. Talk presented at Code-RLadies January meeting, Columbia, MO.
- Snyder, H. K. & Engelhardt, C. R. (2019). A Game of Clue: Fraud Detection – An Application to Identify Product Misuse and Business Leads. Talk presented at the Fourth Annual Carfax Tech Summit, Columbia, MO.
- Snyder, H. K. (2019). Binary Decision-Making Process Over Time: Exploring the Diffusion Model. Talk presented at the Quantitative Seminar at the University of Missouri, Columbia, MO
- Snyder, H. K. (2018). A Bayesian Investigation into Inhibition Mechanisms of Contrast and Assimilation. Talk presented at the Fifth Summer School of Computational and Mathematical Modeling of Cognition, Couches, France.
- Snyder, H. K. & Rouder, J. N. (2018). A Bayesian Investigation into Inhibition Mechanisms of Contrast and Assimilation. Poster presented at the Fifth Summer School of Computational and Mathematical Modeling of Cognition, Couches, France.
- Snyder, H. K. (2018). A Bayesian Investigation into Inhibition Mechanisms of Contrast and Assimilation. Talk presented at the Quantitative Seminar at the University of Missouri, Columbia, MO

- Snyder, H. K., Rafferty, S. M., Haaf, J. M., and Rouder, J. N. (2017). Common or distinct attention mechanisms for contrast and assimilation? Poster presented at the Psychonomic Society 58<sup>th</sup> Annual Meeting, Vancouver, Canada.
- Snyder, H. K. (2017). Finding the Forest Through the Trees: A Bayesian Analysis of Flanker Effects on Perceptions. Talk presented at the Quantitative Seminar at the University of Missouri, Columbia, MO.
- Snyder, H. K., Klein, D., Cartor, R., Carleton, R. and Tonge, A. (2014). How Low can you go? Estimating the Maximum of a Polynomial. Talk presented at the Joint Mathematics Meeting, Baltimore, MD.
- Snyder, H. K. & Wong, R. (2013). Conics in Extended Taxicab Geometry. Talk presented at the National Conference for Undergraduate Research, La Crosse, WI.
- Snyder, H. K. & Wong, R. (2013). Conics in Extended Taxicab Geometry. Talk presented at the Joint Mathematics Meeting, San Diego, CA.
- Snyder, H. K. (2012). Conics in Taxicab Geometry and Extended Taxicab Geometry. Talk presented at the Mathematics Association of America's Mathfest, Madison, WI.
  - Outstanding Presentation Award

## Awards

- Robert S. Daniel Graduate Teaching Fellowship (Since 08/2018). Department of Psychological Sciences, University of Missouri.
- G. Ellsworth Huggins Scholarship (Since 08/2016). 3-year Doctoral Level Fellowship awarded by the Office of Graduate Studies, University of Missouri.
- Graduate Student Travel Grant for attending the Psychonomic Society 58<sup>th</sup> Annual Meeting (2017). Department of Psychological Sciences, University of Missouri.
- Scholar of Psychology Award (2014). Department of Psychology, Washington & Jefferson College.
- Clyde Shepherd Atchison Scholar Book Award (2014). Department of Mathematics, Washington & Jefferson College.
- Dr. Mariano Garcia '39 Award in Mathematics (2014). Department of Mathematics, Washington & Jefferson College.
- Dr. Mariano Garcia '39 Award in Mathematics (2013). Department of Mathematics, Washington & Jefferson College.
- Howard J. Burnett Presidential Scholarship (2010). Awarded by the Office of Admission, Washington & Jefferson College.

## References

**DR. JENNY KLINE || PROFESSOR OF MATHEMATICS | WASHINGTON & JEFFERSON COLLEGE**

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**DR. JEFF ROUDER || PROFESSOR OF PSYCHOLOGY | UNIVERSITY OF CALIFORNIA-IRVINE**

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**DR. CLINTIN DAVIS-STOBER || PROFESSOR OF PSYCHOLOGY | UNIVERSITY OF MISSOURI**

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**DR. CHRIS ENGELHARDT || LEAD DATA SCIENTIST | CARFAX, INC. || CEO | TABASTATS ANALYTICS**

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