Donald B. Lee-Brown

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SUMMARY

Physics Ph.D. student specializing in using data analysis and machine learning to creatively solve challenging problems. Strong quantitative background and 5+ years' experience managing the entire project pipeline, from problem identification to solution design, implementation, and assessment. Self-motivated and team-oriented, with proven ability to successfully manage multiple projects.

TECHNICAL SKILLS

Proficiencies: Data mining and analysis, statistics, machine learning, technical communication
Programming: Python (TensorFlow, Keras, Numpy, Pandas, Scikit), Git, Bash, some MATLAB and R

WORK EXPERIENCE

Graduate Research Assistant, Stellar Evolution, *University of Kansas* 2013-present
- Worked closely with faculty from several institutions to study star clusters
- Used data mining to increase the known sample of a rare class of stars
- Results published in two peer-reviewed papers (one as first author)

Graduate Research Assistant, Galaxy Evolution, *University of Kansas* 2015-2017
- Part of a collaboration studying galaxies in the early Universe
- Reported findings at a professional conference and in a first-author paper

Undergraduate Research Assistant, *Luther College* 2010-2013
- Implemented a statistical test to detect variability in time series data

ADDITIONAL DATA SCIENCE EXPERIENCE

Data Science Bowl 2018, *Kaggle Machine Learning Competition* 2018 (ongoing)
- Using deep learning to identify cell nuclei

A Deep Learning Python Code for Spectroscopic Analysis, *University of Kansas* 2017
- Built a code to classify spectra 80x faster, 2x more accurately than existing methods
- Awarded a $5000 University of Kansas Summer Research Fellowship

Carvana Image Masking Challenge, *Kaggle Machine Learning Competition* 2017
- Our team implemented an autoencoder neural network to mask images of cars

Nature Conservancies Fisheries Monitoring, *Kaggle Machine Learning Competition* 2016
- Built a neural network to identify and classify fish in low-resolution images

Third La Serena School for Data Science, *AURA campus, La Serena, Chile* 2015

Tenth Summer School in Astrostatistics, *Penn. State University, State College, PA* 2014

EDUCATION

Ph.D., Physics, *University of Kansas, Lawrence, KS* May 2018 (expected)

M.S., Physics, *University of Kansas, Lawrence, KS, with Honors* November 2016

B.A., Physics, Mathematics, *Luther College, Decorah, IA, Cum Laude* May 2013

RECENT AWARDS

E.E. Slossen Graduate Teaching Award, *University of Kansas* 2017

Graduate Studies Summer Research Fellowship, *University of Kansas* 2017