Kyle Payne | CV

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Academic Appointments

CSPC 440
Teaching Assistant, ***Champaign, IL*** *August 2015–Present*

I am currently a teaching assistant for CPSC 440, a introductory statistical inference course for crop scientists. I have taught subjects such as

- Basic Distribution Theory
- Central Limit Theorem
- Bayes' Rule
- ANOVA / Linear Regression
- Multiple Comparisons

Employment

Dow AgroScience
Bioinformatics Intern: Agricultural and Genomic Applications, ***Champaign, IL*** *May 2015–Present*

I work in the R&D arm of the data analysis department of Dow AgroScience, where I tackle problems pertaining to:

- Robust statistical inference for agricultural seed lot problems
- Phenotype Prediction with High Dimensional Models
- Identifying amino acid sequences according to structural motifs from cDNA sequences

State Farm
MAGNet Analytics Intern, ***Champaign, IL*** *May 2014–May 2015*

I was responsible for working with a full-time staff on various business problems that can be solved with a better understanding of data, these include:

- Examining the use of Multinomial models for ternary classification
- Sentiment Analysis on unstructured social media data
- Loss-ratio modeling for underwriting/risk management projects
- Bias correction of text data using bayes optimal decision rules

Beckman Institute
Undergraduate Research Assistant, ***Urbana,IL*** *May 2013–May 2015*

- Diffusion model research for reaction time studies
- Created a hierarchical bayesian model for longitudinal reaction time data

Education

Academic Qualifications

- **University of Illinois at Urbana-Champaign** **Champaign, IL**
  MS Statistics *2014–2016*

- **University of Illinois at Urbana-Champaign** — **Champaign IL**
  BS Statistics, Major GPA: 3.61/4.00 — *2012–2014*

Projects

- **Diffusion Model Project** This project investigated a divergence in the general methodology of the practice of mass univariate testing of reaction time experiments. We proposed a modification of a hierarchical bayes model that takes into account modeling longitudinal effects.
- **MAGnet Project at State Farm** *'Sentiment Analysis of Social Media Data'* A semester long project at State Farm focusing on using unsupervised learning techniques to assess sentiment in a large corpus of Social Media data pertaining to many of State Farm's various companies and products. We identified 'differential expression' of sentiment across various categories of social media data
- **MAGnet Project at State Farm** *'Multinomial Classification using Generalized Additve Models'* Much of the insurance industry is stuck performing classification with GLM. We proposed a method of building rank ordering models using basis expansions that provided better predicted accuracy to the target than previously observed.

Technical and Personal skills

- **Programming Languages:** Proficient in: R, C, C++, Python (BioPython, Pandas, scikitlearn, canopy), TeX, knitr
- **Industry Software Skills:** SAS, Microsoft Office, Polyanalyst, Verint 360.
- **General Business Skills:** Good presentation skills, Works well in a team, yet able to think individually.
- **Other:** Excellent communication skills.

Interests and extra-curricular activity

- I am the president and founder of Illini Muay Thai, a University recognized athletic club for the sport of Muay Thai.
- Statistics in the Community: A Pro-bono statistical consultant for projects pertaining to non-profit organizations.

References

- Up to 4 references available on request