David J. Klemish

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Summary of Qualifications

Quantitative focused analyst with experience in both theoretical research and practical issues. Skilled in integrating and extracting actionable information from a variety of data sources. Adept at presenting and teaching technical topics to a wide variety of audiences.

Key Skills

- Programming Languages: R, C/C++, SQL, Stan, Python, SAS, CUDA/Thrust, Matlab, Java, VBA
- Modeling Skills: Bayesian statistics, regression modeling via GLM / GAMs, hierarchical modeling, time series analysis, machine learning using tree based methods, spatial data analysis, multivariate analysis, nonparametric statistics, causal analysis
- Data visualization: ggplot2, matplotlib, seaborn, plotly
- Productivity Software: Office, ArcGIS

Education

- M.S. in Statistics, Duke University   2018
- M.S. in Statistical and Economic Modeling, Duke University   2014
- B.S. in Mathematics, University of Delaware   2001
- B.A. in Computer Science and Physics, University of Delaware   2001

Selected Experience

DUKE UNIVERSITY, Ph.D. Candidate in Statistics   2014 – 2019
- Performed independent research on multivariate Bayesian quantile regression and spatial data modeling using Lévy processes. Methodologies were implemented in R packages using C++ via Rcpp. Presented ongoing work in department seminars.
- Taught weekly lab sessions for undergraduate and graduate statistics classes, covering topics including Bayesian statistics, predictive modeling, statistical modeling and linear model theory. Responsibilities included preparation and grading of assignments. Was awarded departmental teaching assistant of the year award in 2015.
- Contributed data analysis and statistical modeling in R, SQL and Stan for interdisciplinary research covering sports science and health policy. Techniques included nonlinear multivariate modeling and quantile regression. Cowrote 2 published papers and 1 paper under review.

SAS INSTITUTE, Graduate Student Intern   May 2017 – December 2018
- Contributed to implementing a flexible hierarchical regression model, written in C, for inclusion into a SAS/ETS procedure.
- Reviewed statistical literature for consideration of adding new techniques to SAS software.

AIG, Senior Actuarial Analyst   April 2009 – April 2012
- Performed large account pricing for workers compensation, commercial auto, and general liability insurance policies for both primary and excess layers.
- Priced loss portfolio transfers for clients' self-insured workers compensation retentions up to 300M of premium.
- Communicated and explained technical actuarial analyses to underwriters.
- Assisted management in understanding financial implications of insurance transactions.

INSURANCE SERVICES OFFICE, Actuarial Assistant Manager II   February 2002 – April 2009

- Supervised personal automobile program ratemaking reviews and regulatory filings; proposed recommendations regarding rate level changes to management.
- Analyzed territory definitions using spatial ZIP Code data and prepared resulting territory filings.
- Utilized SAS and R to perform Generalized Linear Modeling (GLM) analysis on premium differentiation based on vehicle characteristics.
- Responsible for symbol/vehicle rating for personal automobile liability coverage for first and third parties.
- Managed staff of 4-6 Actuarial Assistants and Business Analysts.

Professional Associations

- Fellow of the Casualty Actuarial Society, 2006
- Member of the American Academy of Actuaries, 2008
- Candidate for Chartered Financial Analyst Level II, 2009

Publications

1. Klemish, D., Ramger, B., Vittetoe, K., Reiter, J.P., Tokdar, S.T. & Appelbaum, L.G. (2018). "Visual Abilities Distinguish Pitchers from Hitters in Professional Baseball", *Journal of Sports Science, 36(2).*

2. Kaufman B.G**.,** Klemish D., Kassner C., Reiter J.P., Li F., Harker M., O'Brien E.C., Taylor D.H., Bhavsar N. (2018). "Predicting Length of Hospice Stay: An Application of Quantile Regression", *Journal of Palliative Medicine, 21(8).*

3. Kaufman B.G, Klemish D., Olson, A., Kassner, C., Reiter, J.P., Harker, M., Sheble, L., Goldstein, B.A., Taylor, D.H., Bhavsar, N., "The Need for Novel End-of-Life Markets", *Health Affairs* (under review).