Yan (Emma) Shen

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Summary

- PhD-Epidemiology and biostatistician with 2.5 years of hands-on experience in data manipulation, statistical modeling, data visualization, and proficient programming; expertise in linear regression, categorical data analysis, survival analysis, path analysis, cluster analysis, linear mixed model, experimental design.
- Software: SAS Base Certified (Base/Macro/STAT/ SQL/Graph), Python, SQL, R, SPSS, Tableau, Power BI.

Experience

Data Analyst   Dec 2016 – present
University of Tennessee Health Science Center | Department of Preventive Medicine   Memphis, TN
- Provide statistical leadership for multiple community-level clinical trials and pre-post studies.
- Develop statistical analysis plans (SAP) and assist in study design; design, develop and perform extensive statistical models on family- and patient-level data to address health outcome/assessment issues, such as logistic regression, survival analysis, linear mixed model, cluster analysis, sample size calculation, randomization, etc.
- Design and perform survival analysis and k-protype cluster analysis in SAS and Python to identify protective features to improve housing stability.
- Build and optimize repeatable SAS Macros and SQL queries to automate data cleaning to ensure data integrity by, which reduces reporting time of semi-annual reports from 1 month to 3 weeks.
- Design and set up dashboards to collect and analyze staff satisfaction data using RedCap, Qualtrics and SAS. Build and implement strategies based on survey results, which improves satisfaction by 20%.
- Create tables, figures and listings (TFL) for statistical reports and data visualization.
- Present results at national conference meetings; prepare and submit abstracts/manuscripts for publication.
- Collaborate with and respond to internal/external stakeholders in a timely and professional manner.

Research Assistant   Aug 2012 – Dec 2018
University of Memphis | School of Public Health & Department of Sociology   Memphis, TN
- **Isle of Wight birth cohort study (three-generational observational study, UK)**
    - Proposed a two-step screening approach to screen high-dimensional epigenetic data (450k CpGs).
    - Selected two informative biomarkers of mothers in relation to both grand-maternal BMI and grandchild's birth weight using R and high-performance computing (HPC in Linux).
    - Designed path analytical models to assess mediating effects of maternal phenotypic and epigenetic features.
    - Classified pregnant mothers into groups with similar socioeconomic status using k-means cluster analysis.
- Developed algorithms to predict length of pregnancy and birth weight using survival analysis & linear regression.
- Identified features to increase innovative ability of Chinese firms by applying multinomial logistic regression.
- Results were submitted and are currently under review for publication.
- Trained fellow students on study design and programming; results were published as abstracts.

Teaching Assistant (Public Health Epidemiology | Social Statistics)   2013, 2016
University of Memphis | School of Public Health & Department of Sociology   Memphis, TN
- Held review sessions for graduate/undergraduate students using SAS/SPSS; graded homework and exams.

Education

PhD in Epidemiology | University of Memphis | Memphis, TN   Dec 2018
- Related courses: Biostatistics in Bioinformatics, Large Data Sets Research, Mixed Model Regression Analysis, Applied Structural Equation Models, Applied Survival Analysis, Applied Categorical Data Analysis

MA in Sociology | University of Memphis | Memphis, TN   Aug 2014
BA in Teaching Chinese as a Second Language | Nanjing Audit University | China   Jun 2012

Publication

- Mathias, J., Zhang, H., Karmaus, W., Soto-Ramirez, N., and **Shen, Y**. Mixed Infant Feeding - Direct Breastfeeding, Pumping and Feeding, and Formula Food Poses a Risk for Food Allergy in Early Childhood. Journal of Allergy and Clinical Immunology, Volume 139, Issue 2, AB385.
- **Shen, Y.**, Meyer, L., Nouer, S., Allen, S., and Connor, P. Infant and Early Childhood Mental Health for Home Visitors: A Professional Development Curriculum for Addressing/Incorporating Mental Health into Care Systems. Poster presented at National Conference on Child Abuse and Neglect on Apr. 25th, 2019.