Food Deserts and Income Levels

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DATS 6450 - Bayesian Methods for Data Science

**Problem Statement**

Ease of access and healthy quality of food sources among various socioeconomic statuses have been noted as significant indicators of disparity. A neighborhood of residence and geographic distance to healthy food options, such as those provided by supermarkets, has shown significant relationships to a variety of wellbeing factors like income level or quality of educational institutions (Luan, Minaker, & Law, 2016). This project will attempt to find the probabilistic relationships between factors including urban/suburban location, poverty rate, median family income, age count by category (kids versus seniors), and race by category (black, white, Asian, Hispanic) and the accessibility to food options. Significant findings could assist in identifying neighborhoods and populations at risk. Additionally, the resulting analytics could provide valuable insight for city officials for future gentrification or new development projects.

**Teammate Responsibilities**

Topic Selection & Resources: Michael

Proposal Draft: Samantha

Code & Readme File: Michael & Samantha

Report & Presentation Slides: Michael & Samantha

Presentation: 5 minutes Michael, 5 minutes Samantha

**REFERENCES**

Data Received From: <https://www.ers.usda.gov/data-products/food-access-research-atlas/>

Lamichhane, A. P., Warren, J., Puett, R., Porter, D. E., Bottai, M., Mayer-Davis, E. J., & Liese, A. D. (2013). Spatial patterning of supermarkets and fast food outlets with respect to neighborhood characteristics. Health & Place, 23, 157-164. doi:10.1016/j.healthplace.2013.07.002

Luan, H., Law, J., & Quick, M. (2015). Identifying food deserts and swamps based on relative healthy food access: A spatio-temporal Bayesian approach. International Journal of Health Geographics,14(1). doi:10.1186/s12942-015-0030-8

Luan, H., Minaker, L. M., & Law, J. (2016). Do marginalized neighbourhoods have less healthy retail food environments? An analysis using Bayesian spatial latent factor and hurdle models. International Journal of Health Geographics, 15(1). doi:10.1186/s12942-016-0060-x