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Research Statement
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Exploring the urban landscape and human-environment interaction has always been a passion of mine, which lead to me earning degrees in Geography and GIS. My concentration in geography was the human perspective, which focused on the meaning of space and place for communities. Advancing my GIS expertise, exploited my curiosity in data visualization, design, and web development as a means to gain understanding and new insights on complex concepts and data.

My research spans a broad spectrum of topics. I specialize in projects relating to urban frameworks, digital humanities, and web mapping. Finding new methods for data acquisition like natural language processing and data visualization techniques, including open source platforms like D3, are interests of mine because they are unique disciplines that help represent and analyze data. My research perspective is geographical with advanced technological skills and extended my proficiency in development to have more options in visualization and to reach a wider audience through interactive environments. The following summarizes a pair of projects I worked on individually and in collaboration that embody my research experience.

Mapping Balzac's Paris

Popular-French novelist Honoré de Balzac wrote a compilation of short literary works entitled *The Human Comedy*, using realism and ethically ambivalent characters to depict the complexities and capricious state of Parisian society during the Bourbon Restoration period of 1814-1830. As a Research Assistant at the Borchert Map Library, I mapped, by extracting place locations via text analysis programs, geocoding, and data refining, the movements of Balzac's main characters in three novels: *Father Goriot, Lost Illusions: A Distinguished Provincial at Paris*, and *The Magic Skin*. The objective of this project was to investigate the nuances of the place names Balzac referenced by uncovering patterns, and how the patterns reflected Paris' evolving and modernizing social structure, city structure, and architecture of that period by adding a spatial and visual context.

Analyzing the data by overlaying the points and polylines over a digitized 1814 Parisian map in addition to current street basemaps, concluded that character movement throughout the city paralleled plot and urban developments. The research exemplified Paris' social topography as seen through class stratification, the isolation of the poor, making it arduous to intermingle between classes and social advancement. As the novels spanned several decades, it also illustrated how the city center continued to move north distancing itself from poorer districts along with changes in city layout, location names during different regimes. The continuation of this project will expand to include aspects such as crime areas and potentially additions of authors like Victor Hugo and *Les Miserables*.

The Mapping of Joy and Pain

University of Minnesota faculty member and artist Rebecca Krinke requested assistance in converting her art piece into a web map. Her inquiry was to examine how civilians felt at certain locations in Minneapolis and Saint Paul. Once, the map was completed, we were to quantify the results using hotspot analysis to see if there were specific areas within the cities that attracted more positive or negative experiences. Originally, she set a large- wood carving of the Twin Cities in communal areas where people drew where they felt positive and negative experiences. My colleague and I used Mapbox Studio, ESRI, and Bootstrap to simulate her project. This web map was to have greater outreach and user-interaction by allowing the user more freedom to describe their experiences with the addition of story submissions.