**JOSEPH NORKPLIM ATTAH – 3974318**

**MORPHOLOGY OF STREET NETWORKS IN URBAN NEIGHBORHOODS IN GHANA**

**Introduction**

Street networks form the vessels through which the life blood of human settlements (people, services, goods and information) flow. They underlie commutes, discretionary trips and the location decisions of households and firms (Boeing, 2018a). More importantly, they help shape the urban structure and shape the way human interactions happen in space.

Understanding the composition, configuration and decisions underlying the way urban neighborhoods and cities are shaped will help shape future planning decisions and provide an avenue to scrutinize and better evaluate the effects of years of urban transportation planning in our cities in Ghana.

This study seeks to take the computational network and data science approach to examine the structural configuration of street networks in urban neighborhoods in Ghana, concentrating on the two neighborhoods each from the most developed and populated cities in Ghana, Accra and Kumasi which possess fine grained road networks comparable to cities on a global scale based on intersections and street densities (Dumedah & Garsonu, 2021)

**Problem Statement**

Rapid urbanization and its associated pressures on street networks and urban form have been widely studied and reported in Ghana. Coupled with the ad hoc approach to transportation planning that usually involves the expanding of street networks in cities to accommodate the increasing traffic with limited consideration for spatial configurations of street networks (Dumedah & Garsonu, 2021) the problem is becoming harder to ignore.

Even though there exists very little literature studying urban street networks in Ghana, many studies have been emerging all over the world studying topological relations, connectedness, resilience of street networks (Boeing, 2018a, 2018b; Zhao et al., 2019), using empirical methods that are open and reproducible and can be taken advantage of by urban planners, researchers and pedagogy to better understand street networks and how they affect and shape human interactions and settlement decisions in Ghana.

Disaster management and response can also be greatly improved if we better understand the intricate patterns characterizing street networks in Ghana.

**Research Questions**

**Research Objectives**

**Methodology**

**Conclusion**