Problem Set 1

Sumedha Ray

January 29, 2026

Introduction

My research focuses on development economics and applied microeconomics, examining how institutions, shocks, and policies affect marginalized populations. One of my dissertation chapter analyzes the long-term effects of communal violence on women's empowerment in India.

I want to take this class to strengthen my R programming skills for data visualization, spatial analysis, and reproducible workflows. I currently use Stata extensively, but I want to learn R for its advantages for the complex data structures and geo-spatial analysis which will be very helpful for my research.

For my class project, I'm considering developing my job market paper idea as much as possible and utilize the sources from this class optimally.

My goals are to become proficient in R for data analysis and visualization, learn best practices for reproducible research including version control and documentation, and develop skills in communicating empirical findings effectively. After graduation, I plan to pursue an academic career conducting rigorous empirical research on inequality and economic opportunity for vulnerable populations. Strong data science skills will be very essential for my career.

Equation

$$a^2 + b^2 = c^2 \tag{1}$$