Examining the patent ecosystem in United States

Project Question: Analysing and examining factors that drive patent innovation using patents data available from USPTO and PatentsView

Background & motivation to analyse patents Innovation is singled out as the key factor that drives long-term productivity and economic growth. Countries that innovate, create new technologies and encourage the adoption of these new technologies grow faster than those that do not. That being said that, patents are the most commonly used measure of innovation output. Economists and historians mutually agree that data and statistics on patents act as an effective measure for technological change. In fact, the U.S. patent office (USPTO)1 issued its first patent on July 31, 1790. Since then, there have been over 6 million patents issued leading to breakthrough development of steamships, automobiles, electric power, electric appliances, aviation, aerospace, telecommunications, mobile communications, computers, the Internet, biotechnology, nanotechnology, Machine Learning, Natural Language Processing, Artificial Intelligence, and blockchain.

Dataset used:

- USPTO research datasets: https://www.uspto.gov/ip-policy/economic-research/research-datasets: The United States Patent and Trademark Office (USPTO) is an agency in the U.S. Department of Commerce that issues patents to inventors and businesses for their inventions, and trademark registration for product and intellectual property identification.
- PatentsView: https://patentsview.org: PatentsView is a free, online platform for visualizing, disseminating, and promoting a better understanding of U.S. patent data supported by the USPTO's Office of the Chief Economist

Analysis enabled by the datasets Having motivated the importance of patent statistics as a critical indicator for technological and economic growth, I aim to explore the patent ecosystem using the data provided by USPTO and PatentsView2 to understand what factors drive patent innovation (thereby understand the drivers for technological and economic growth) as part of this project. USPTO and PatentsView have undertaken commendable efforts to document patent data (both recent patents and those filed as early as the 1970s). Such extensive and exhaustive datasets will help me understand the geography of innovation, demography of inventors and factors (if any) that inhibit patent innovation. It is important to learn these given the tremendous personal and commercial benefits that can be reaped by patenting. Using these two data sources, I can uncover essential trends in innovation over a broad time span and across different categories, such as drugs and medical, computer and communications, etc.

PatentsView has even gone a step further to disambiguate inventor names and provide gender for each inventor as part of their database. Such refined and resourceful databases will enable me to derive meaningful insights into the patent examination process.