

PANDEMIC PATTERNS: NAVIGATING THE IMPACT ON ILLINOIS' SMALL BUSINESSES



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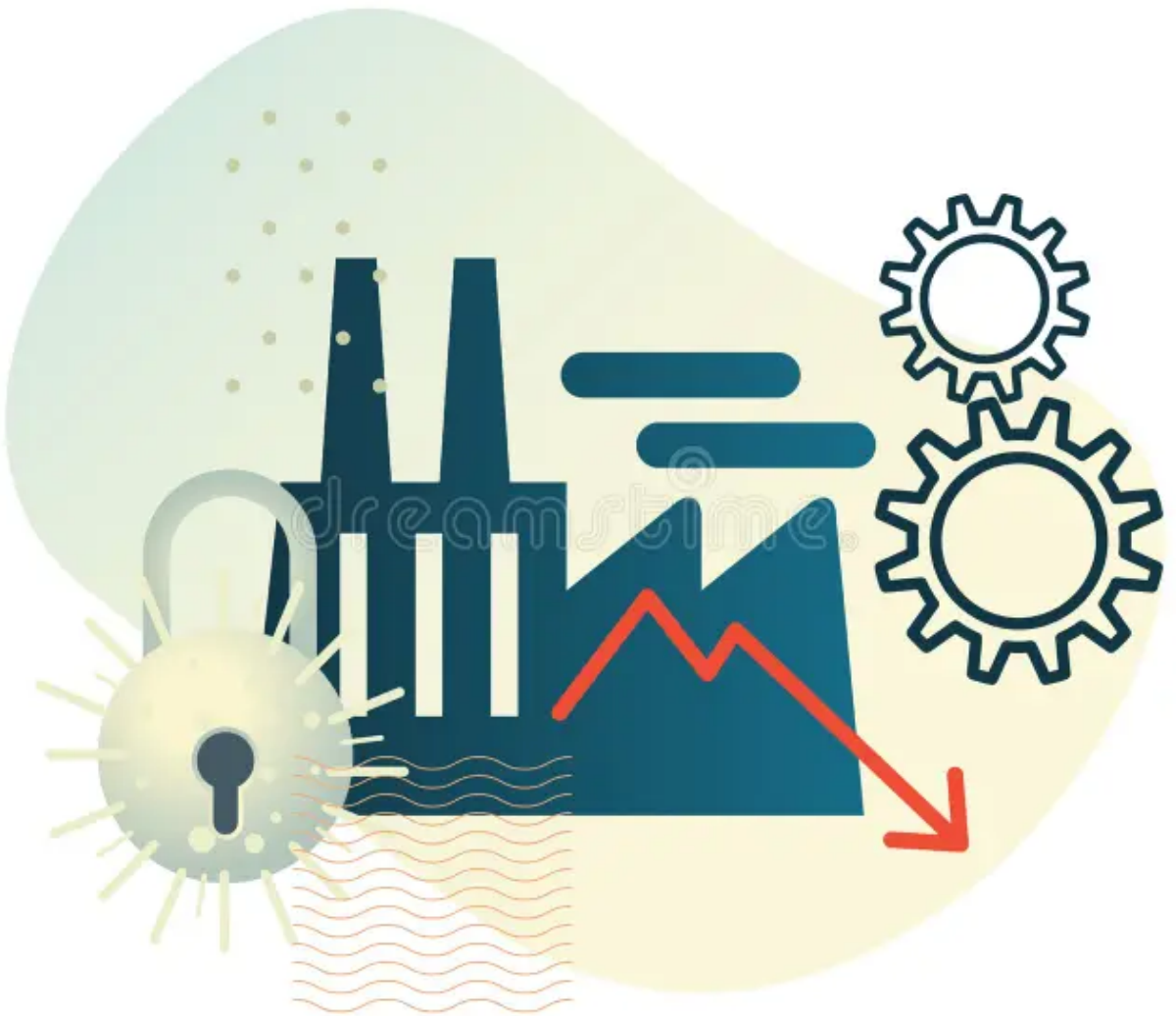
Github repo:

<https://github.com/vsrrevanth/CS418Covid19ImpactOnSmallBusinesses>



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PROBLEM STATEMENT

Big Idea

Examining COVID-19's impact on Illinois' small businesses, we delve into revenue, employment, and financial stability challenges, using advanced analytics to uncover survival dynamics and provide stakeholders with actionable insights for fortifying resilience and sustaining economic vitality.

Problem Statement

Amid the COVID-19 upheaval in Illinois, our project quantifies small businesses' economic strains, unveils survival patterns, and offers actionable solutions. As businesses teeter on closure, we dissect crucial factors for survival, empowering stakeholders to navigate the crisis and uphold community economic stability.

MOTIVATION

1

Why it matters?

Small businesses are crucial to the local economy and community. Understanding their challenges during the pandemic can inform policy and support mechanisms.

2

Choice of Problem

Selected due to the immediate relevance and potential for actionable insights that could support economic recovery efforts.

3

Hypotheses

We hypothesize that certain industries and locations within Illinois were more adversely affected than others, and identifying these patterns can guide targeted support.



DATA

Data Access: Data has been sourced from the U.S. Small Business Administration and the Illinois Department of Commerce and Economic Development. Access to the data is already secured.



DATA



KNOWLEDGE



ACTION

DATA DESCRIPTION

- **Dataset 1**

Survey responses from Illinois businesses regarding the pandemic's impact, featuring categorical and quantitative assessments

- **Dataset 2**

Detailed information on PPP loans to Illinois businesses, including loan amounts, business types, and demographic data

- **Size and Type**

The datasets include thousands of records with both numerical and categorical features, representing a comprehensive view of the pandemic's impact on small businesses.

Data Collection Effort: Minimal additional collection required, as primary datasets are already acquired.

SOLUTION AND EXPECTED DELIVERABLES/FINDINGS

1

Approach

Our methodology combines exploratory data analysis (EDA) to uncover trends and machine learning to predict impacts on small businesses. We aim to identify the factors contributing to business resilience or failure during the pandemic.

2

Scope and Next Steps

Initial focus will be on data cleaning, data preparation and EDA, followed by model development for impact prediction.

3

End Result Vision:

A comprehensive report detailing the pandemic's impacts on small businesses in Illinois, mostly by EDA. Also give predictions using ML models.

CONT..



1

Techniques

We will use statistical analysis, data visualization, and predictive modeling techniques, including regression and classification algorithms.

2

Interactivity:

The goal is to create both static and interactive elements, allowing users to explore the data and findings in depth.

3

Progress Report Goals

By the progress report, we aim to have completed the data cleaning, conducted an initial EDA, and begun developing predictive models.

**THANK
YOU**

