

FINAL VIDEO DEMO

SALARY PROJECTIONS BY EDUCATION LEVEL

TIME SERIES ANALYSIS GROUP 3

TEAM MEMBERS

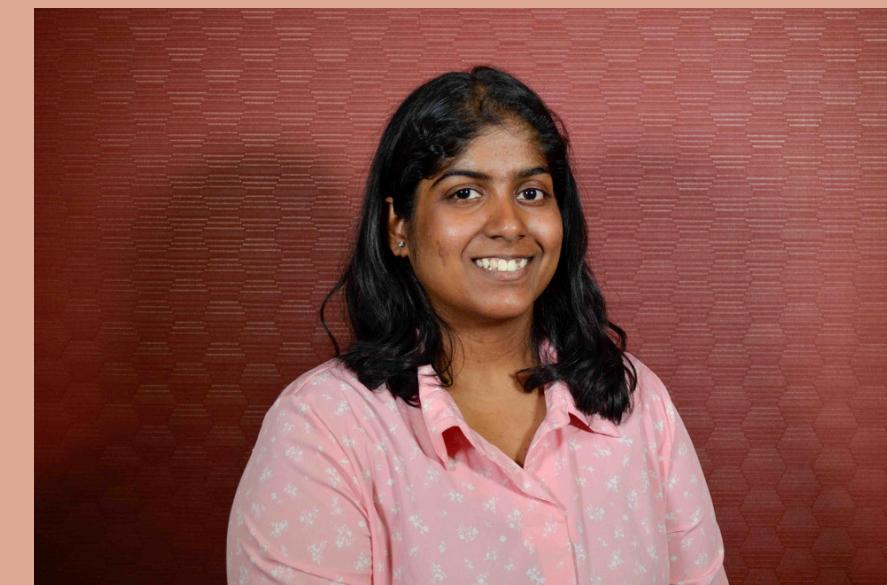
PAUL



DHYEY



JUI



INTRODUCTION

Project Objectives:

Our goal is to forecast average salaries from 2022-2026, categorized by education level, using historical data from 1975-2021. Through a Python-based dashboard, users can explore salary trends and make informed decisions about education and career paths.

Usefulness:

The dashboard provides valuable insights for students and professionals, guiding education and career choices. With interactive features, users can explore salary trends based on education levels and gender, aiding informed decision-making.

DATA DESCRIPTION

- Dataset spans from 1975 to 2021, showing average salaries categorized by education level.
- Includes data for both genders, with separate rows for male and female workers.
- Clean dataset without missing rows, sourced from the US Census Bureau's CPS Historical Time Series Tables
- Contains 47 rows of data, covering various educational attainment levels from no high school diploma to advanced degrees.
- Key columns include 'year', 'no_high_school_salary', 'high_school_salary', 'some_college_salary', 'bachelors_earners', 'bachelors_salary', and 'adv_salary'..

MODELS IMPLEMENTED



AR

RSS = 4.32



MA

RSS = 3.4



ARIMA

RSS = 3.04



SARIMAX

RSS = 1.56

MODELS IMPLEMENTED

LSTM

RMSE = 0.448

NAIVE

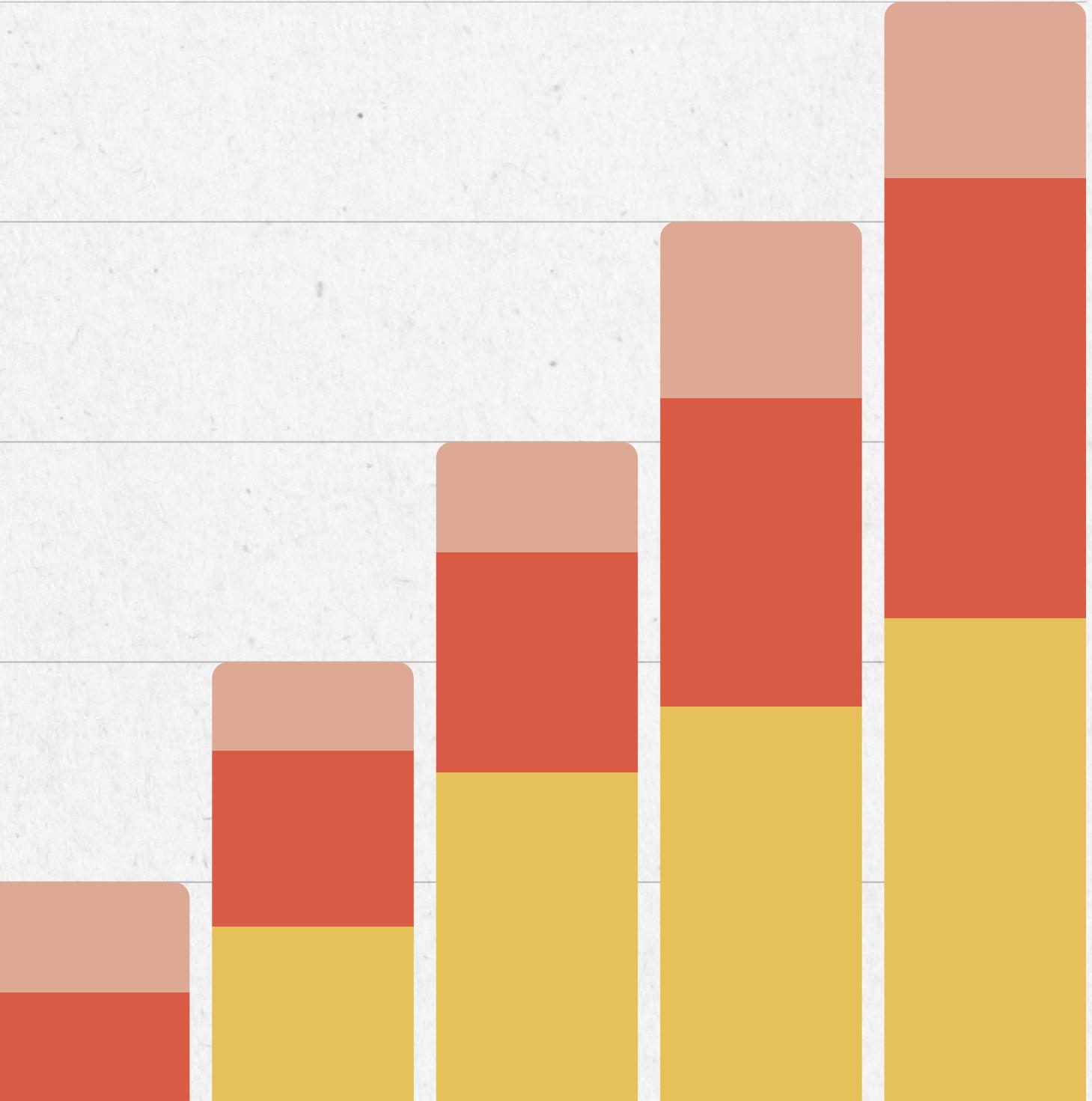
RSS = 0.488

MLP

RSS =
875890796.419

RESULTS OF ANALYSIS

Various models, including AR, MA, ARIMA, SARIMAX, LSTM, MLP, and NAIVE, were evaluated for forecasting. The **LSTM** model performed the best, with the latter chosen for its balance of accuracy and simplicity.



CONCLUSION

Our project aimed to forecast average salaries in the United States by educational attainment using historical data from 1975 to 2021. We explored various models, ultimately selecting the Unobserved Components model for its accuracy and interpretability. This dashboard serves as a valuable tool for guiding educational and career decisions based on long-term salary trends.



**THANK YOU
VERY MUCH!**