Project Proposal

Occupational Employment and Wage Visualization and Prediction

Huiyun Bin, Victoria Liu, Siyan Ma

There are lots of great opportunities in the state. When people consider opportunities, large metropolitan areas like Los Angeles, New York, Seattle, or Chicago naturally come to mind. However, there are a few professions that are more concentrated in non-metropolitan regions, and some of them pay well. The Occupational Employment and Wage datasets provide annual employment and wage estimates for over 800 occupations. These estimates are provided for the entire country, individual states, as well as national occupational estimates for specific industries.

1. What problem are you going to be tackling on your project?

   These datasets benefit companies as well as job seekers. It gives transparent raw data that enables job seekers to have an idea of salary ranges. Employers may also use these statistics to determine where to locate their operations based on expected pay costs for employment jobs.

2. Why is that an interesting/useful application of data science?

   Based on this dataset, we try to predict what are the highest paying occupations in the next 10 years. Students can make an informed decision to choose their career after graduation and people who are considering making a career change would know what to expect in terms of median wage to decide whether to change occupation or not.

3. What data and models are you envisioning training to address that (e.g., classification, regression, clustering)?

   We plan to look at National Occupational Employment and Wage Statistics from 2012 to 2020 and apply regression to train this dataset. We envision the regression model will help us to predict wages for different occupations from 2021 to 2030.

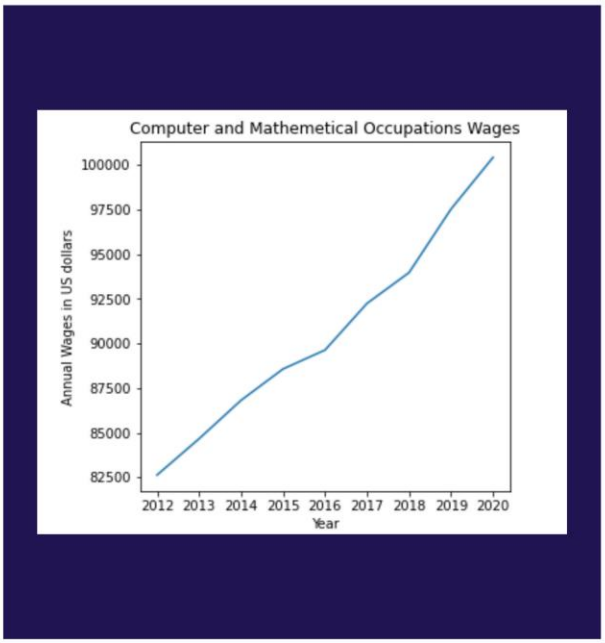
4. What will a user interface that packages your model(s) look like and how will you make it user-friendly for someone to leverage your work?

   We propose a basic website with two main functionalities:

   - Visualizing the previous records of employment and wages information, including average annual wages, average working hours, and the total number of employments, by different occupations. Users can easily select the sector they are interested in from a list of occupations. After the user makes a request, the output area displays a visual representation of the time series of employment or salary data as well as model forecasts.

Project Proposal

- 00-0000 All Occupations
- 11-0000 Management Occupations
- 13-0000 Business and Financial Operations Occupations
- 15-0000 Computer and Mathematical Occupations
- 17-0000 Architecture and Engineering Occupations
- 19-0000 Life, Physical, and Social Science Occupations
- 21-0000 Community and Social Service Occupations
- 23-0000 Legal Occupations
- 25-0000 Educational Instruction and Library Occupations
- 27-0000 Arts, Design, Entertainment, Sports, and Media Occupations
- 29-0000 Healthcare Practitioners and Technical Occupations
- 31-0000 Healthcare Support Occupations
- 33-0000 Protective Service Occupations
- 35-0000 Food Preparation and Serving Related Occupations
- 37-0000 Building and Grounds Cleaning and Maintenance Occupations
- 39-0000 Personal Care and Service Occupations
- 41-0000 Sales and Related Occupations
- 43-0000 Office and Administrative Support Occupations
- 45-0000 Farming, Fishing, and Forestry Occupations
- 47-0000 Construction and Extraction Occupations
- 49-0000 Installation, Maintenance, and Repair Occupations
- 51-0000 Production Occupations
- 53-0000 Transportation and Material Moving Occupations



- Predicting highest paying occupations in the future.