Ira A. Fulton Schools of Engineering
Arizona State University
Engineering | School of Computing, Informatics, and Decision Systems Engineering

CSE 578: Data Visualization

Course Project

Introduction

In this team project, you will create data visualizations to answer a customer ask.

Customer Ask

XYZ Corporation uses data to develop marketing profiles on people. These profiles are then sold to numerous companies for marketing purposes. You work at XYZ as part of a team of data analysts. Your team has just been given a new project working with UVW College, a local college looking to bolster enrollment. UVW has chosen a salary as a key demographic to determine criteria for marketing its degree programs. You must develop marketing profiles using data supplied by the United States Census Bureau, and you will be focusing on $50,000 as a key number for salary. There are many key variables that must be assessed for individuals making less than and more than $50,000, including age, gender, education status, marital status, occupation, etc.

For example, if the data show that the majority of individuals making less than $50,000 is under 34 years old, male, single, and has a high school diploma, the college can market to this demographic with tuition amounts, program concentrations, and even ground or online programs appropriate to this demographic.

To achieve its enrollment target, the marketing team at UVW would like to develop an application to find the factors that determine the individual's income. One way to accomplish this is to use the United States Census Bureau data provided by the XYZ company. The marketing team wants to group the factors that can be used in the development of their proposed model/application. They also want the application to predict the income of an individual based on different values of the input parameters so that they can tailor their marketing efforts when reaching out to the individuals.

Project Description

You will use the following dataset to complete the project.

Dataset: https://archive.ics.uci.edu/ml/machine-learning-databases/adult/

Description of the column names:
https://archive.ics.uci.edu/ml/machine-learning-databases/adult/adult.names

We recommend that you get an early start on the team project. As a team, review the customer ask so you can understand what is expected and divide the work among team members.

Week 1 Assignment:

- Connect with your team members.
- Determine your team name and post it in the group discussion. Have fun with your name!

Unit 5 Checkpoint Deliverables (Team Submission):

- **Progress Report:** A 1-2 page report that describes your progress and how each member is contributing to the project.

Unit 6 Checkpoint Deliverables (Team Submission):

- **Executive Report:** A slide presentation designed for UVW executives that contains the visualizations that answer the customer ask.
- **Systems Documentation Report:** A 6-8 page report that describes the work that has been done to answer the question posed by UVW. Include your Python code with your submission.

Unit 8 Checkpoint Deliverables (Individual Submission):

- **Individual Contribution Report:** A 2-3 page report that details your individual contribution to your team project.

Directions

The specific instructions for each project checkpoint deliverable can be viewed either in the downloadable files in the Course Project Introduction section of *Unit 1: Introduction to Data Visualization*, or in the submission space for that checkpoint. The submission spaces can be found in Unit 5, Unit 6, and Unit 8.

Please review the directions in advance so you can work effectively on the various project components.

Submission Directions for Project Deliverables

Submit project checkpoint deliverables in the appropriate submission spaces. These can be found in Unit 5, Unit 6, and Unit 8. The instructions for submitting deliverables for each checkpoint can be viewed either in the downloadable files in the Course Project Introduction section of *Unit 1: Introduction to Data Visualization*, or in the submission space for that checkpoint

Please review the submission directions in advance so you are prepared to submit project components appropriately.