

MARKETING PROFILES GENERATION BASED ON INCOME

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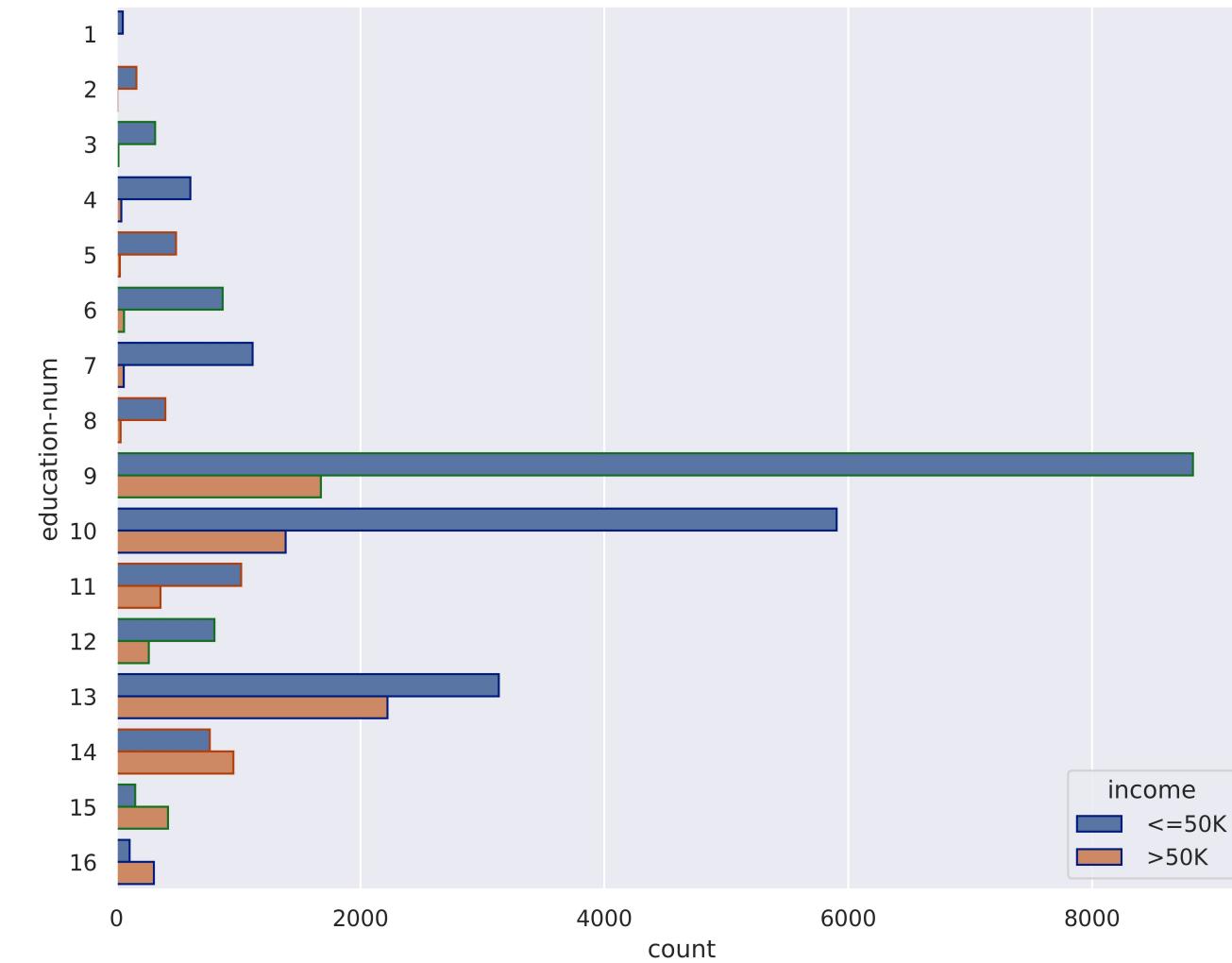
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PROJECT STATEMENT

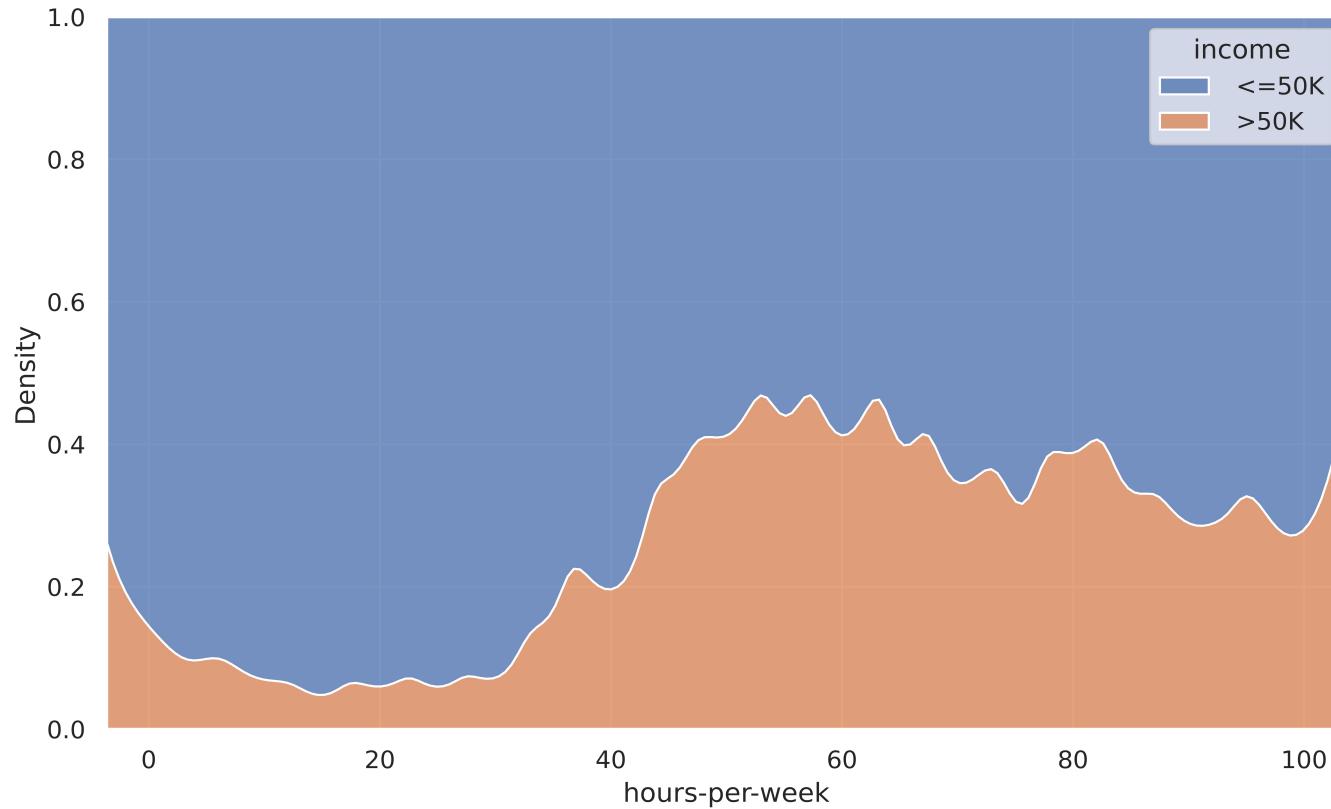
- We identified the four key factors in 1994 US Census Bureau data that account for determining the individual's income using various univariate and multivariate visualizations for UVW executives. These key factors are **education-num**, **hours-per-week**, **sex** and **age**.
- Income=\$50K is used as a key demographic to determine the criteria for marketing UVW degree programs.

EDUCATION-NUM



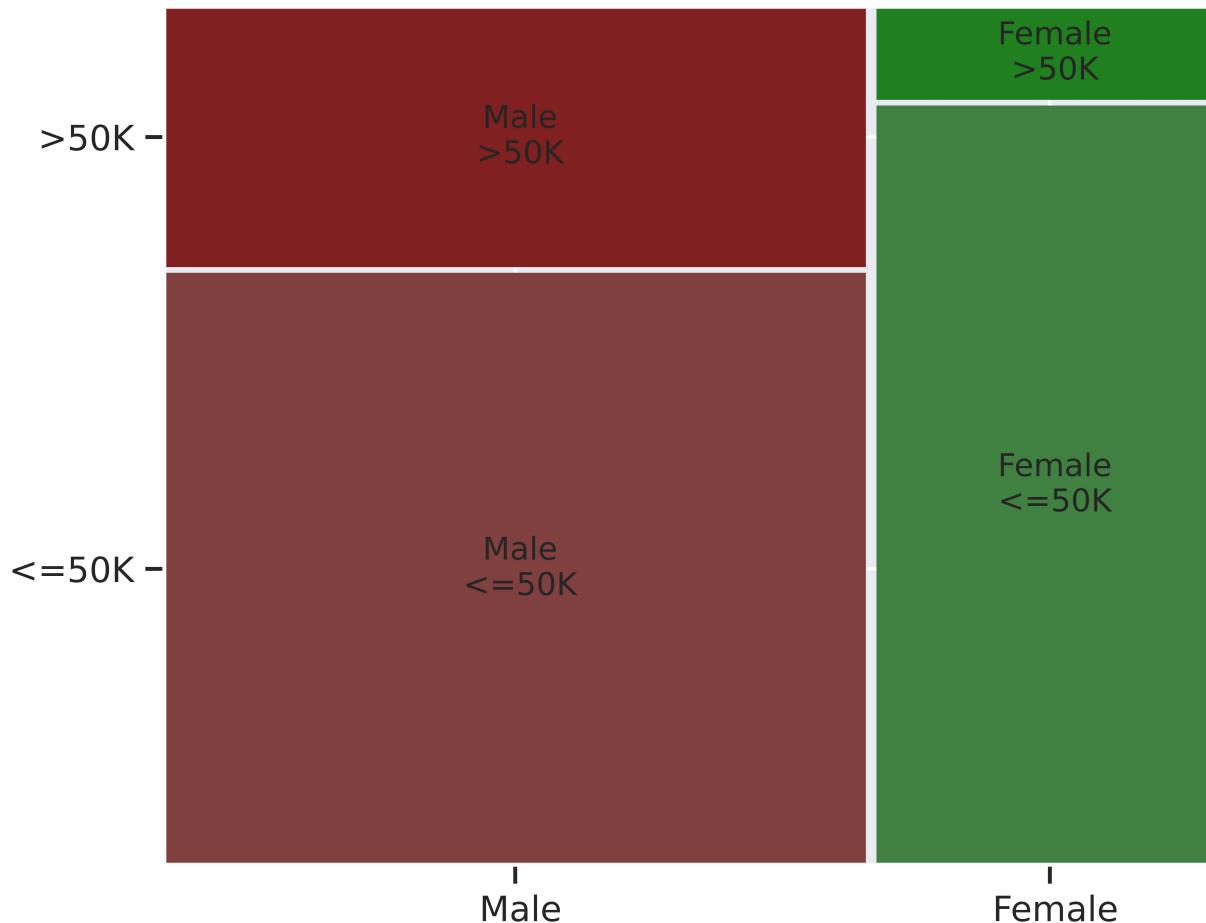
- Horizontal bar chart
 1. Features covered : education-num
- Inferences
 1. As the education-num increases, the proportion of the number of people with income over 50k increases.
 2. This inference is intuitive as the level and quality of education of a person increase, their income increases proportionally.
 3. As the education-num gets significantly higher, the number of people having income over 50k become more as compared to their counterparts.

HOURS-PER-WEEK



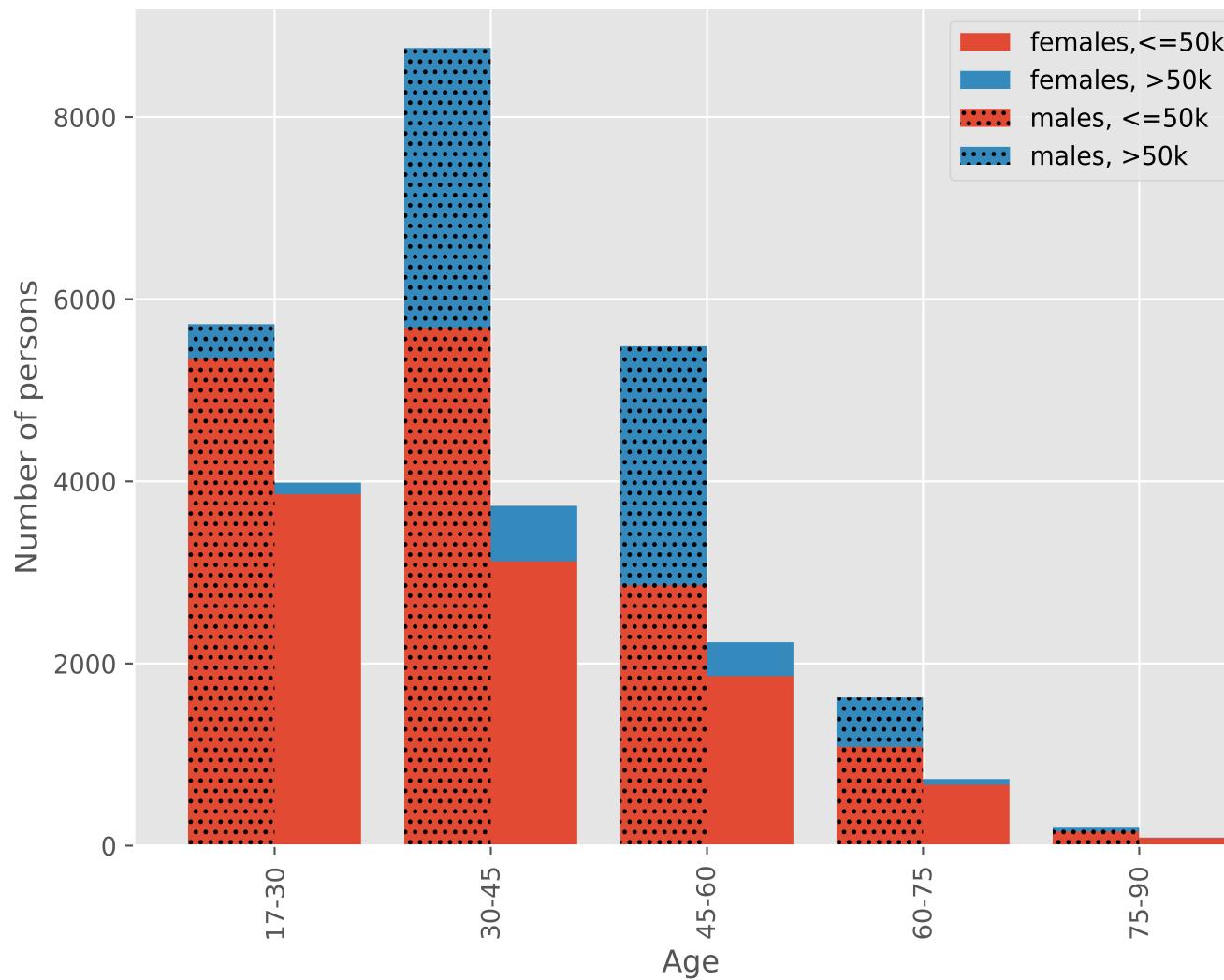
- Density plot
 - 1. Features covered: hours-per-week
- Inferences
 - 1. The people who work less than ~30 hours/week generally earn less than \$50k.
 - 2. Almost 40% of the people who work more than ~50 hours/week earn more than \$50k.

SEX



- Mosaic plot
 - 1. Features covered: Sex of a person
- Inferences
 - Most of the people >50% regardless of their gender, earn less than \$50K.
 - Males have a higher proportion of earning more than \$50K in comparison to their counterparts.
 - Females have a very less proportion of their population earning more than \$50K, so, UVW college can focus on creating awareness amongst the female mass about the benefits of a college level education.

SEX & AGE



- Stacked Bar chart:
 1. Features covered: Age, Sex
- Inferences:
 1. Across all the age groups, males have a higher proportion of income greater than \$50K in comparison to females.
 1. We can see the above effect more pronounced in the two age groups: 30-45 & 45-60. UVW college can then marketeer their advertisements focused on these two groups.
 2. People in the age group of 17-30 regardless of their gender generally earn less than \$50k owing to their younger age.

CONCLUSION

We analyzed the impact of various features in US Census Bureau dataset on individual's income using univariate and multivariate visualizations. We found that **education**, **hours-per-week**, **sex** and **age** are top impacting factors while factors such as capital-gain, occupation and marital status also has some correlation with the income. There exist few redundant features in the dataset such as **fnlwgt** and **capital-loss** etc.

CONTRIBUTIONS

- **Understanding Dataset** – All members
- **Preprocessing Dataset** – Kartik & Natesh
- **Visualization and Inference** – All members
- **Executive Report** - All members