

Project Proposal: Adult Census Income Analysis

● Problem Statement (SMART)

By the end of a 4-week analysis period, identify the key demographic, educational, and occupational characteristics that most strongly predict whether an individual earns more than \$50,000 annually, and develop at least three actionable policy recommendations to improve income mobility and reduce structural inequities. These recommendations must address at least 80% of the risk factors uncovered in the dataset.

● Context

Economic inequality in the United States remains a persistent and growing concern. The Adult Census Income dataset contains demographic, employment, marital, and education information on U.S. residents, providing an empirical foundation for understanding which factors correlate with income levels. Insights can help shape policy around workforce development, educational access, and economic mobility.

● Criteria for Success

- Identify and quantify top predictors of earning above \$50K.
- Produce at least three actionable policy recommendations grounded in empirical results.
- Ensure proposed recommendations collectively address 80% of major identified risk factors.
- Deliver full analysis and reporting within 4 weeks.

● Scope of Solution Space

Potential solution areas include:

- Educational and vocational policy interventions.
- Labor market reforms to address wage disparities or occupational bottlenecks.
- Tax and economic mobility initiatives informed by financial indicators.
- Targeted support programs for demographics at higher risk of low income.
- Data-driven monitoring frameworks to evaluate income dynamics.

● Constraints

- Dataset contains ~48,000 entries with missing values requiring preprocessing.
- Interpretability is prioritized over predictive accuracy.

- Recommendations must be practical and aligned with U.S. labor and education policy.
- Sensitive attributes must be handled ethically and used for fairness assessments.

● Stakeholders

- Primary: U.S. government agencies responsible for labor policy and economic mobility.
- Secondary: Policymakers, educators, labor economists, workforce development boards.
- Tertiary: Data science and analytics teams producing insights and models.

● Data Sources

- Adult Census Income Dataset (UCI Machine Learning Repository)

<https://archive.ics.uci.edu/ml/datasets/adult>