**Data Analytics Internship Submission Report**

**Project Title:** Gender Bias in Hiring or Promotions  
**Candidate Name:** Manoj Kumar Desu  
**Internship Program:** GigaVersity – Data Analytics Internship  
**Submission Date:** June 2025

**1. Problem Statement**

This project investigates gender bias in hiring and promotions, specifically looking into how salary, employment status, and promotion likelihood differ by gender in the tech industry. The goal is to identify whether equal opportunities exist for individuals of different genders given similar qualifications and experience.

**2. Methodology**

* **Dataset:** Stack Overflow Developer Survey (73,000+ entries) from Kaggle
* **Tool Used:** Power BI
* **Fields Analysed:** Gender, Salary, Employment Status, Promotion, Years of Professional Experience, Education Level, Country

**Process Followed:**

1. Data cleaning and removal of null or irrelevant rows
2. Created descriptive visuals to compare employment statistics by gender
3. Developed drill-through pages with slicers for deeper analysis by country, education, and experience
4. Applied DAX measures to calculate KPIs and gender-based comparisons

**3. Key Metrics and Visualizations**

|  |  |  |
| --- | --- | --- |
| **Metric** | **Visual Type** | **Description** |
| Gender Ratio | Donut Chart | Distribution of respondents by gender |
| Employment Rate | Bar Chart & Table | % employed by gender |
| Salary Comparison | Bar & Column Charts | Sum and average of salary by gender |
| Experience vs Salary | Line/Area Chart | Trends of salary growth with experience |
| Geographic Trends | Map / Bar Chart | Country-level employment and gender splits |
| Salary by Education | Column Chart | Compare salaries across education levels |

**Drill-through Features:**

* Page 1 allows users to right-click on any gender, country, or education level and drill into a detailed page (Page 2) that filters all visuals accordingly. Slicers refine the insights for deeper understanding.

**4. Key Findings**

* Male respondents earn a disproportionately higher total salary (~95% of total share)
* Employment rate: **Male = 54%**, **Female = 45%**
* Promotion rates were also skewed in favor of male participants
* Women earn less on average even with similar education and professional experience

**5. Recommendations**

* Adopt **blind recruitment** practices to remove bias in shortlisting
* Regularly **monitor salary and promotion rates** across genders
* Encourage **mentorship programs** for women and non-dominant gender groups
* Implement **transparent salary bands** and standardized negotiation practices