

## **HR Dashboard Project**

### **Data Generation**

#### Chat-GPT Prompts

Generate python script to generate a realistic dataset of 8950 records for human resources. The dataset should include the following attributes:

1. Employee ID: A unique identifier.
2. First Name: Randomly generated.
3. Last Name: Randomly generated.
4. Gender: Randomly chosen with a 46% probability for 'Female' and a 54% probability for 'Male'.
5. State and City: Randomly assigned from a predefined list of states and their cities.
6. Hire Date: Randomly generated with custom probabilities for each year from 2015 to 2024.
7. Department: Randomly chosen from a list of departments with specified probabilities.
8. Job Title: Randomly selected based on the department, with specific probabilities for each job title within the department.
9. Education Level: Determined based on the job title, chosen from a predefined mapping of job titles to education levels.
10. Performance Rating: Randomly selected from 'Excellent', 'Good', 'Satisfactory', 'Needs Improvement' with specified probabilities.
11. Overtime: Randomly chosen with a 30% probability for 'Yes' and a 70% probability for 'No'.
12. Salary: Generated based on the department and job title, within specific ranges.
13. Birth Date: Generated based on age group distribution and job title requirements, ensuring consistency with the hire date.
14. Termination Date: Assigned to a subset of employees (11.2% of the total) with specific probabilities for each year from 2015 to 2024, ensuring the termination date is at least 6 months after the hire date.
15. Adjusted Salary: Calculated based on gender, education level, and age, applying specific multipliers and increments.

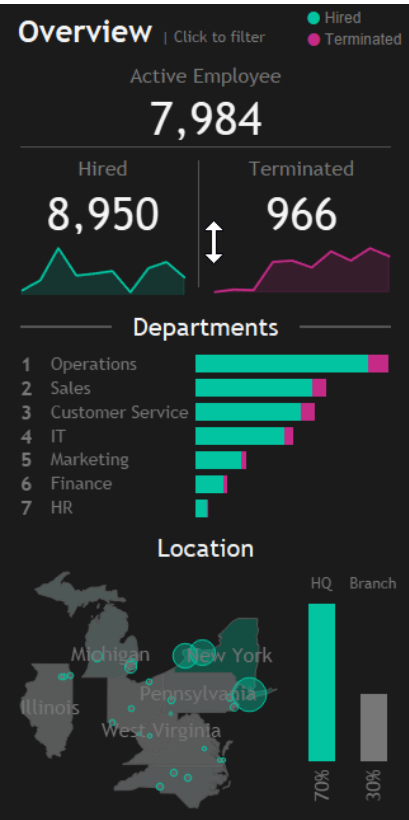
# HR Analytics Report

This report presents a structured analysis of HR metrics, divided into three main sections: **Overview, Demographics, and Income Analysis**. Each section provides key insights into workforce composition, hiring trends, and salary distributions.

## 1. Overview

The **Overview** section provides a high-level snapshot of the company's workforce, covering hiring trends, employee distribution, and department-level breakdowns. Key insights include:

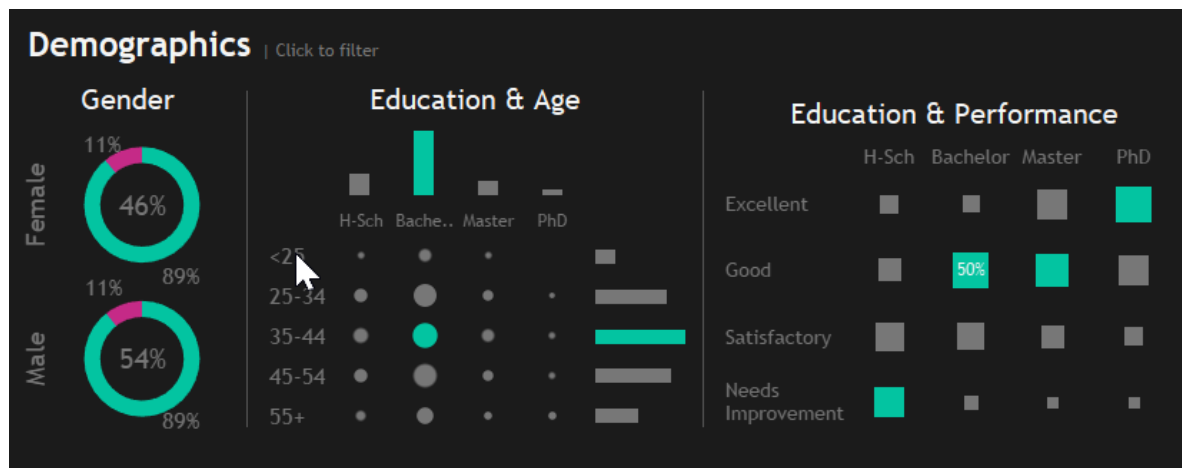
- **Employee Count:** Displaying the total number of **hired, active, and terminated employees**.
- **Hiring & Termination Trends:** Visualizing the annual trends in **hiring and termination** to assess workforce growth.
- **Department & Job Titles Breakdown:** Presenting the distribution of employees across **departments and job roles**.
- **Headquarters vs. Branches:** Comparing the **total employees in headquarters (New York)** and **branch locations**.
- **Geographical Distribution:** Showcasing the **distribution of employees by city and state**.



## 2. Demographics

The **Demographics** section analyzes workforce composition based on gender, age, and education. Insights include:

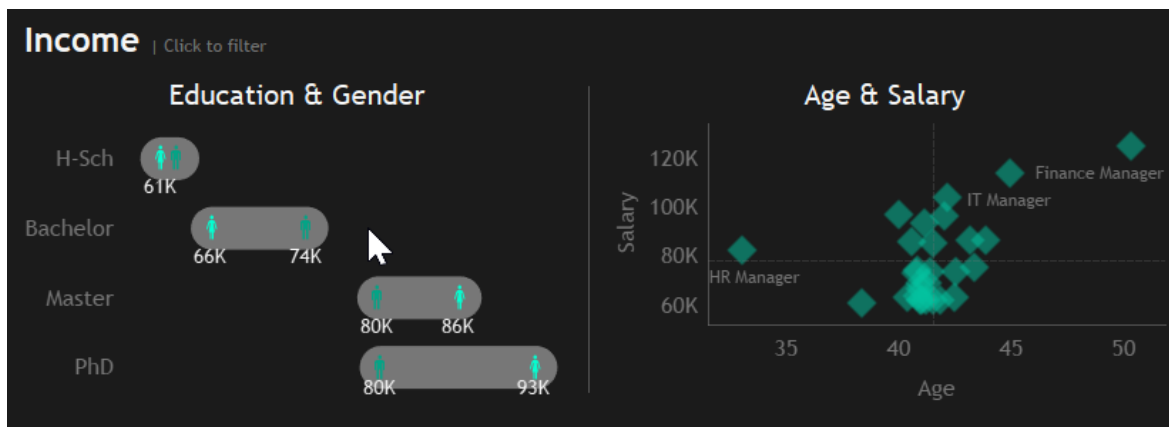
- **Gender Ratio:** Presenting the **male-to-female employee ratio** across the company.
- **Age & Education Distribution:** Visualizing the **distribution of employees across age groups and education levels**.
- **Age & Education Breakdown:** Displaying the **total number of employees per age group and education level**.
- **Education & Performance Correlation:** Analyzing the **relationship between educational background and employee performance ratings**.



## 3. Income Analysis

The **Income Analysis** section focuses on salary trends and potential disparities. Key aspects include:

- **Salary by Education & Gender:** Comparing **salaries across different education levels for both genders** to identify patterns or discrepancies.
- **Age & Salary Correlation:** Examining how **age influences salary across different departments**.



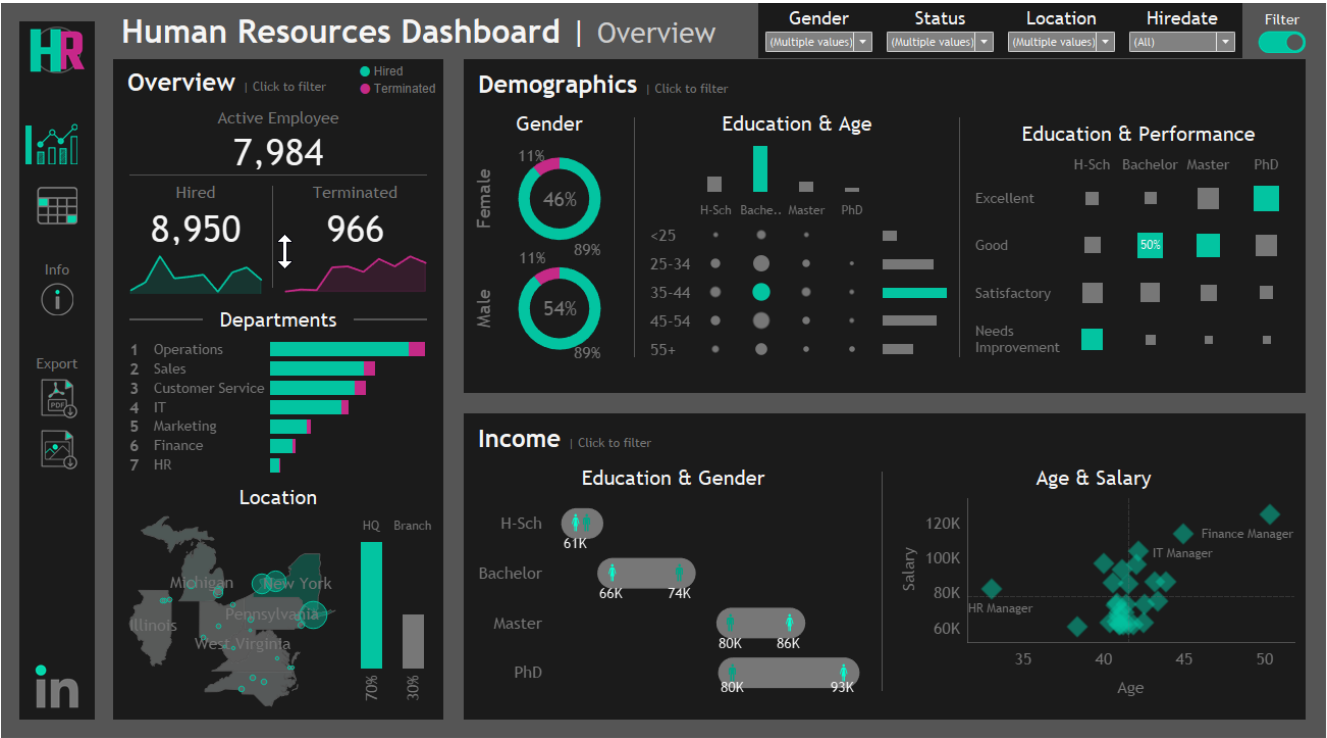
#### 4. Employee Records View

The **Employee Records** section provides a detailed list of all employees with essential details, including:

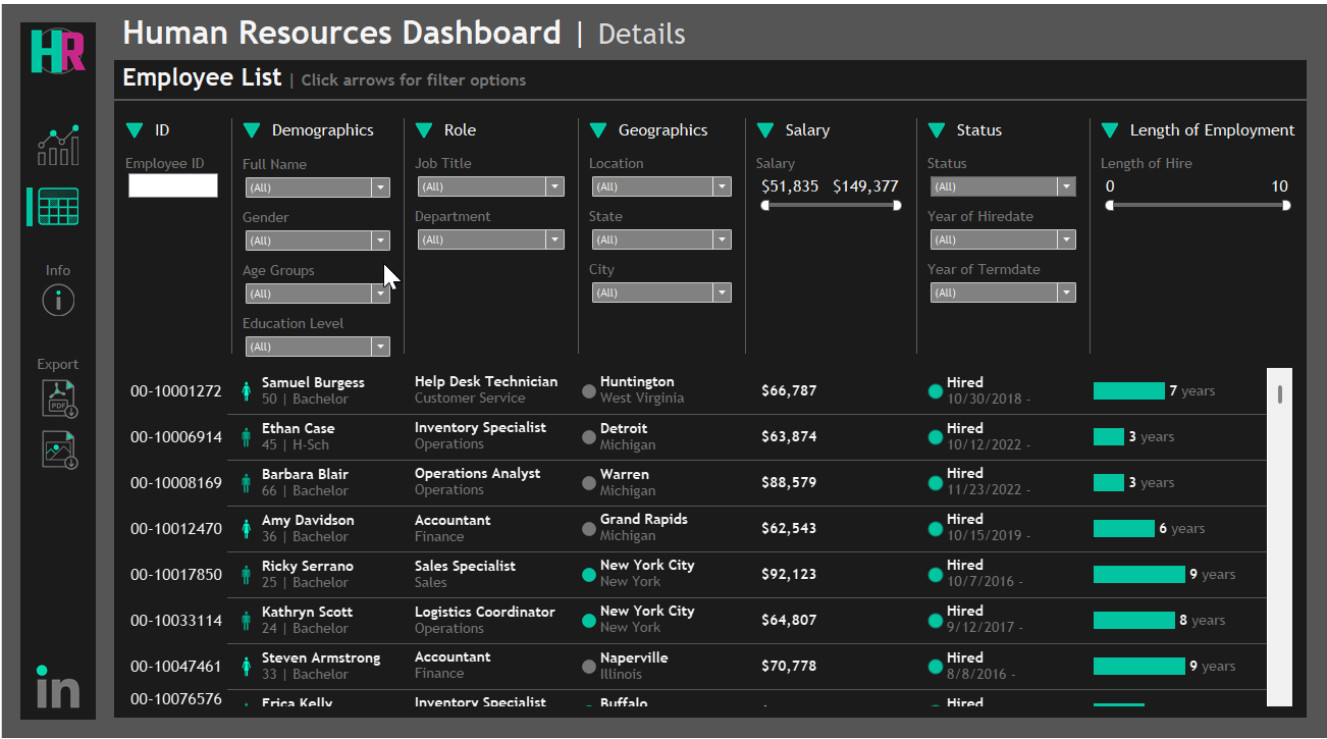
- **Personal & Professional Information:** Name, department, position, gender, age, education, and salary.
- **Filtering Capabilities:** Users can **filter the list based on any available column** for customized analysis.

00-10001272	Samuel Burgess 50   Bachelor	Help Desk Technician Customer Service	Huntington West Virginia	\$66,787	Hired 10/30/2018 -	7 years
00-10006914	Ethan Case 45   H-Sch	Inventory Specialist Operations	Detroit Michigan	\$63,874	Hired 10/12/2022 -	3 years
00-10008169	Barbara Blair 66   Bachelor	Operations Analyst Operations	Warren Michigan	\$88,579	Hired 11/23/2022 -	3 years
00-10012470	Amy Davidson 36   Bachelor	Accountant Finance	Grand Rapids Michigan	\$62,543	Hired 10/15/2019 -	6 years
00-10017850	Ricky Serrano 25   Bachelor	Sales Specialist Sales	New York City New York	\$92,123	Hired 10/7/2016 -	9 years
00-10033114	Kathryn Scott 24   Bachelor	Logistics Coordinator Operations	New York City New York	\$64,807	Hired 9/12/2017 -	8 years
00-10047461	Steven Armstrong 33   Bachelor	Accountant Finance	Naperville Illinois	\$70,778	Hired 8/8/2016 -	9 years

Overview Dashboard



Details Dashboard



Dashboard Link (Tableau) : [Click here](#)