STUDENT PLACEMENT DATA ANALYSIS DASHBOARD

Student Placement Data Analysis Dashboard
Power BI

Under the guidance of
Mrs. Siddhika Shah

By

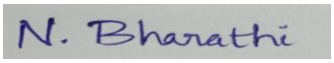
Nadigeni Bharathi (B.Tech CSE(DS))

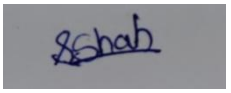
Period of the project
February 2025 to March 2025

SURE ProEd
In association with SURE Trust
Puttaparthi – 515134 Andhra Pradesh

Declaration

The project titled "**Student Placement Data Analysis Dashboard**" has been mentored by **Mrs.Siddhika Shah**, organised by SURE Trust, from April 2023 to August 2023, for the benefit of the educated unemployed rural youth for gaining hands-on experience in working on industry relevant projects that would take them closer to the prospective employer. I declare that to the best of my knowledge the members of the team mentioned below, have worked on it successfully and enhanced their practical knowledge in the domain.

Name	**Signature**
Nadigeni Bharathi	

Mentor	**Signature**
Mrs.Siddhika Shah	

Seal & Signature

Prof. Radhakumari

Executive Director & Founder

SURE Trust

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Executive Summary

This project focuses on analyzing student placement data to provide actionable insights for educational institutions. By using Power BI, the project visualizes key performance indicators like placement rates, average packages, top recruiters, and batch-wise trends. It integrates multiple datasets, applies data cleaning and modeling techniques, and delivers an interactive dashboard for stakeholders. The findings enable institutions to optimize training programs, enhance career guidance, and improve overall placement outcomes.

Key Highlights:

- Built a Power BI dashboard integrating four datasets.
- Visualized KPIs like placement rates, drop rates, average package, and top recruiters.
- Enabled interactive filters for customized data exploration.
- Proposed future enhancements like predictive analytics and AI-driven insights.

Introduction

- **Background:**
  In today's competitive job market, understanding student placement data is vital for colleges and universities to evaluate their institutional performance and enhance student employability.
- **Problem Statement:**
  Institutes struggle to track placement patterns, company preferences, and student performance trends due to scattered data sources and the lack of interactive reporting tools.
- **Scope and Limitations:**
  The scope includes placement analysis from existing data using Power BI. The limitation is dependency on historical static data without real-time updates or predictive capabilities.
- **Innovation Component:**
  The project integrates interactive dashboards with slicers and cross-filtering, enabling multi-dimensional analysis of placements, job roles, and academic metrics for better decision-making.

Project Objectives

- Develop a Power BI dashboard for student placement analysis.
- Track placement trends, hiring companies, job roles, and student performance.
- Enable stakeholders to identify improvement areas.
- Provide interactive, user-friendly visuals for deeper insights.

Expected Deliverables:

- Power BI Dashboard with three navigational pages.
- DAX measures for KPI calculation.
- Cleaned, modeled, and relational datasets.
- Project documentation and GitHub repository.

Methodology and Results

Methods/Technologies Used:

- Power BI
- Power Query
- DAX (Data Analysis Expressions)

Tools/Software:

- Power BI Desktop
- Microsoft Excel

Data Collection:

- Student placement data
- Academic performance data
- Company-wise hiring data
- Company type breakdown data

PROJECT ARCHITECTURE :

The **Student Placement Data Analysis Dashboard** was built following a structured, end-to-end workflow to ensure data accuracy, meaningful insights, and interactive visualization. The project architecture involved the following key stages:

End-to-End Student Placement Data Analysis: From Processing to Insights:

Step 1: Data Collection & Import

Datasets Imported:

- **Sheet1** – Contains student placement data.
- **Sheet1 (2)** – Contains academic and enrollment data.
- **Top Companies Hiring** – Company-wise hiring data.
- **CompanyTypeBreakdown** – Breakdown of student placements by company type.

Step 2: Data Cleaning & Preparation

Data Cleaning:

- Used Power Query Editor to remove null values and correct inconsistencies.
- Standardized column names for consistency.

Relationships Established:

- **Student ID** links **Sheet1** with **Sheet1 (2)**.
- **Company Name** links **Sheet1** with **Top Companies Hiring**.
- **Type of Company** links **Sheet1** with **CompanyTypeBreakdown**.

Step 3: Data Modeling

DAX Measures Created for:

- Total Placed Students
- Placement Rate KPI
- Average Package KPI
- Median Package KPI
- Total Eligible Students
- Placement Success Rate
- Batch-Wise Student Count
- Drop Rate Percentage
- Company Type Breakdown Analysis

Relationships Established:

- Ensured proper linking between tables for interactive filtering.

Step 4: Dashboard Design & Visualizations

1. Home Page

KPI Cards:

★ **Total Students Placed:**

TotalPlaced = VAR PlacedCount = CALCULATE(COUNT(Sheet1[Student ID]), Sheet1[Placement Status] = "Placed")

RETURN IF(ISBLANK(PlacedCount), 0, PlacedCount)

★ **Placement Rate KPI:**

PlacementRateKPI =

VAR Placed = [TotalPlaced]

VAR Eligible = [TotalEligible]

RETURN IF(Eligible > 0, DIVIDE(Placed, Eligible, 0) * 100, 0)

★ **Average Package KPI:**

AveragePackageKPI = CALCULATE(AVERAGE(Sheet1[Placement Package]),Sheet1[Placement Status] = "Placed")

★ **Median Package KPI:**

MedianPackageOverTime = MEDIAN(Sheet1[Placement Package])

Charts & Visualizations:

➢ **Placement Rate Over Time (Line Chart):**

- **X-Axis:** Batch (Graduation Year)
- **Y-Axis:** Placement Rate

Placement Rate =

VAR TotalStudents = CALCULATE(COUNT(Sheet1[Student ID]), ALL(Sheet1))

VAR PlacedStudents = CALCULATE(COUNT(Sheet1[Student ID]), Sheet1[Placement Status] = "Placed")

RETURN DIVIDE(PlacedStudents, TotalStudents, 0) * 100

➢ **Top Companies Hiring (Stacked Column Chart):**

- **X-Axis:** Company Name
- **Y-Axis:** Total Hires

Top Companies Hiring =

SUMMARIZE(

FILTER(Sheet1, Sheet1[Placement Status] = "Placed"),

Sheet1[Company Name],

"Total Hires", COUNT(Sheet1[Student ID]))

➢ **Type of Company Breakdown (Donut Chart):**

- **Legend:** Type of Company
- **Value:** Sum of Total Students

CompanyTypeBreakdown =

SUMMARIZE(FILTER(Sheet1, Sheet1[Placement Status] = "Placed"), Sheet1[Type of Company], "Total Students", COUNT(Sheet1[Student ID]))

➢ **Average Package Per Department (Stacked Column Chart):**

- **X-Axis:** Department Name
- **Y-Axis:** Avg Package Per Department

AvgPackagePerDepartment =

CALCULATE(AVERAGE(Sheet1[Placement Package]), Sheet1[Placement Status] = "Placed")

Slicers Added:

- Gender
- Job Role Filter

Navigations Added:

- Home Page
- Performance Metrics
- Job Roles Distribution

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2. Performance Metrics Page

KPI Cards :

★ **Total Students Count:**

StudentsCount = COUNT('Sheet1 (2)'[Student ID])

★ **Drop Rate Percentage:**

DropRatePercentage =

VAR TotalStudents = COUNT(Sheet1[Student ID])

VAR DroppedStudents =

CALCULATE(COUNT(Sheet1[Student ID]), 'Sheet1 (2)'[Enrollment Status] = "Dropped")

RETURN DIVIDE(DroppedStudents, TotalStudents, 0) * 100

★ **Average 10th Percentage:**

Average10thPercentage = AVERAGE('Sheet1 (2)'[10th Percentage])

★ **Average 12th Percentage:**

Average12thPercentage = AVERAGE('Sheet1 (2)'[12th Percentage])

★ **Average GPA:**

AverageGPA = AVERAGE('Sheet1 (2)'[GPA])

Charts & Visualizations:

❖ **Graduation Rate vs Target Rate (Funnel Chart)**

GraduationRate =

```
VAR TotalStudents = COUNT(Sheet1[Student ID])

VAR GraduatedStudents = CALCULATE(COUNT(Sheet1[Student ID]),
'Sheet1 (2)'[Enrolment Status] = "Graduated")

RETURN DIVIDE(GraduatedStudents, TotalStudents, 0) * 100
```

❖ **Batch-wise Student Count (Line Chart):**

- **X-Axis:** Batch (Graduation Year)
- **Y-Axis:** Batch-wise Student Count

BatchWisePlacementRate = DIVIDE(

COUNTROWS(FILTER(Sheet1, Sheet1[Placement Status] = "Placed")),

COUNT(Sheet1(2)[Batch (Graduation Year)]), 0) * 100

❖ **Enrollment Status Count (Donut Chart):**

EnrollmentCategory = IF('Sheet1 (2)'[Enrollment Status] = "Graduated", "Graduated", "Dropped")

EnrollmentStatusCount = COUNT(Sheet1[Student ID])

❖ **Gender-wise Student Count (Pie Chart):**

GenderCategory = IF(TRIM('Sheet1 (2)'[Gender]) IN {"M", "Male"}, "Male", "Female")

GenderWiseStudentCount = COUNT(Sheet1[Student ID])

Slicers Added:

- Batch (Graduation Year) Dropdown
- Department Dropdown

Navigations Added:

- Home : On selecting goes to the Home Page
- Next Page: On Selection goes to the next Page

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3. Job Roles Distribution Page

❖ **Job Role Count by Role Hired For (Tree Map)**

Job Role Count = COUNT(Sheet1[Role-Hired For])

Navigations Added:

- Home : On selecting goes to the Home Page
- Back Page: On Selection goes to the Previous Page

Step 5: Filters & Interactivity

- Enabled cross-filtering between visuals for better insights.

Step 6: Formatting & Aesthetics

- Applied professional theme with university branding.
- Adjusted fonts, colors, and alignment for clarity.

Step 7: Review & Sharing

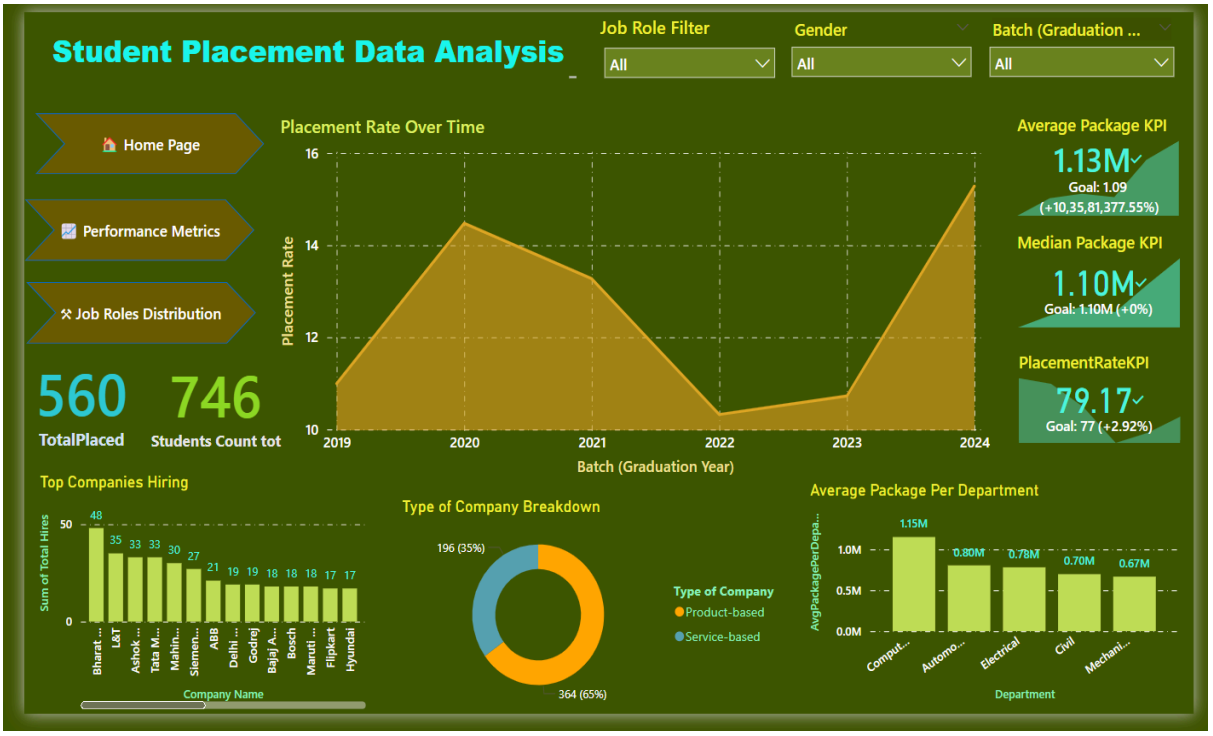
- Verified data accuracy and visualization consistency.

Saved as PDF and Power BI report for stakeholders.

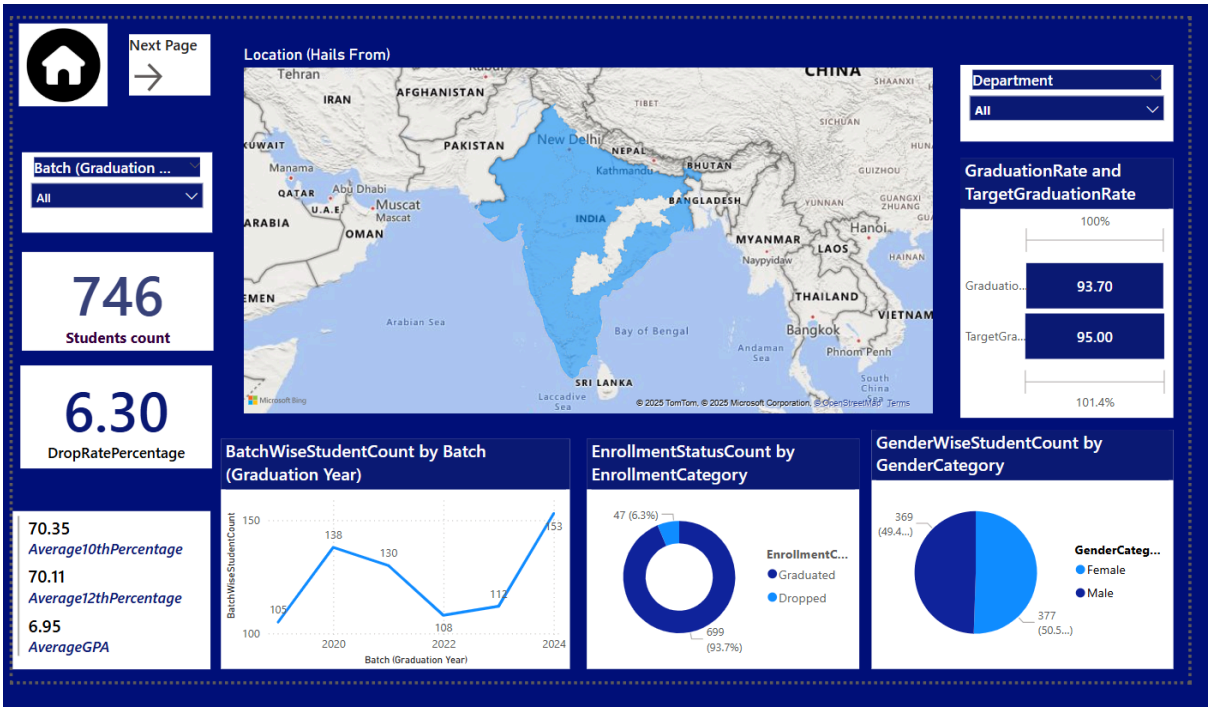
Final project working screenshots along with supporting explanation:

DashBoard View:

Home Page



Performance Metrics Page:



Job Roles Distribution Page:

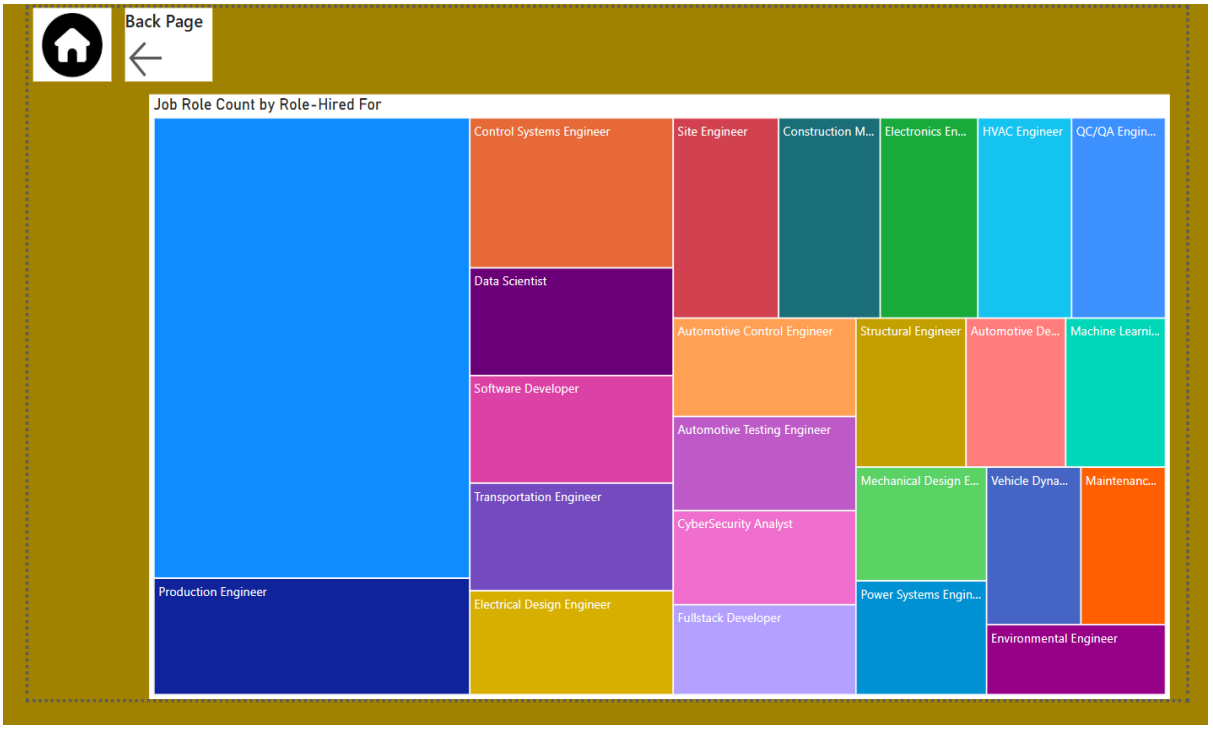


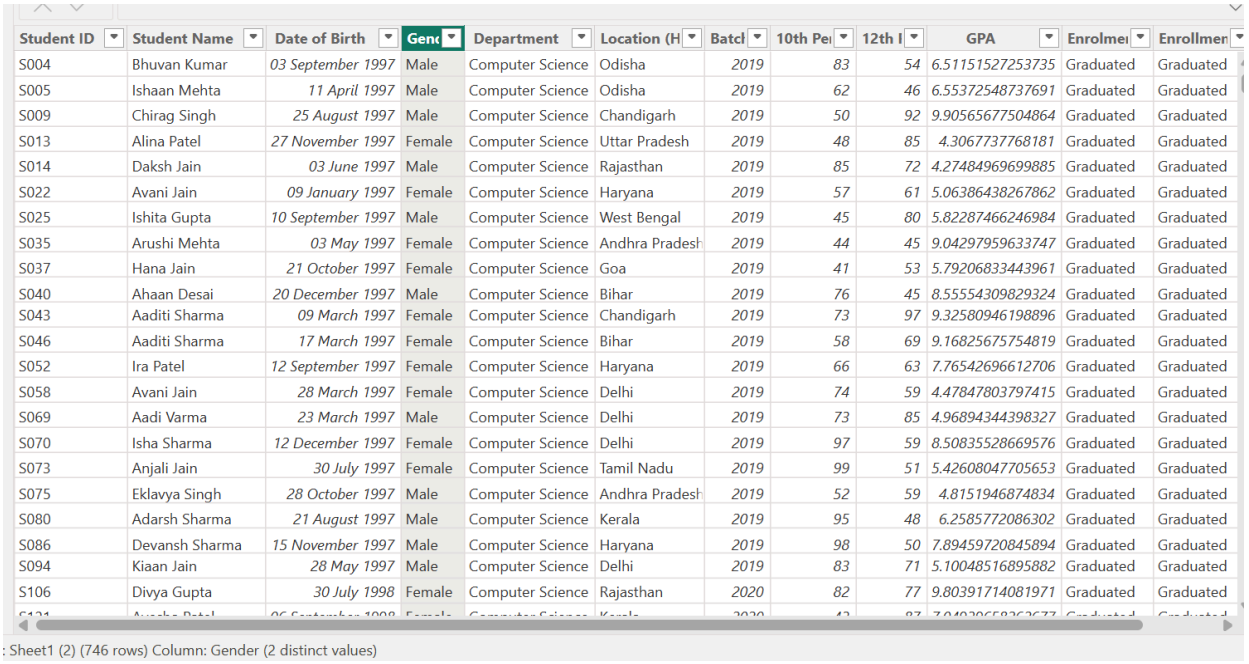
Table Views:

- **Sheet1** – Contains student placement data.

Student ID	Placement Status	Placement Package	Role-Hired For	Type of Company	Company Name	CompanyCategory
S695	Placed	1145474	Transportation Engir	Product-based	Godrej	Product
S692	Placed	740356	Maintenance Engine	Product-based	Mahindra & Mahindra	Product
S690	Placed	1037925	Electronics Engineer	Product-based	Siemens India	Product
S689	Placed	1118477	Electronics Engineer	Product-based	Bosch	Product
S685	Placed	1193636	Production Engineer	Product-based	Bajaj Auto	Product
S684	Placed	1593467	Data Scientist	Product-based	Microsoft	Product
S681	Placed	756907	Structural Engineer	Product-based	Godrej	Product
S680	Placed	1054523	Production Engineer	Product-based	Bajaj Auto	Product
S679	Placed	1330631	Software Developer	Product-based	NVIDIA	Product
S676	Placed	1278235	Electronics Engineer	Product-based	ABB	Product
S670	Placed	1275546	Control Systems Eng	Product-based	Samsung	Product
S669	Placed	1160419	Vehicle Dynamics En	Product-based	Bajaj Auto	Product
S668	Placed	1270554	Electronics Engineer	Product-based	ABB	Product
S665	Placed	914584	Automotive Control	Product-based	Maruti Suzuki	Product
S664	Placed	946875	Automotive Control	Product-based	Mahindra & Mahindra	Product
S662	Placed	1254595	Automotive Design I	Product-based	Bajaj Auto	Product
S661	Placed	1486554	CyberSecurity Analys	Product-based	NVIDIA	Product
S660	Placed	961709	Power Systems Engi	Product-based	Bosch	Product
S657	Placed	956580	Electrical Design Eng	Product-based	Samsung	Product
S655	Placed	1131721	Production Engineer	Product-based	Bajaj Auto	Product
S653	Placed	794412	Site Engineer	Product-based	Godrej	Product
S648	Placed	1249344	Automotive Design I	Product-based	Tata Motors	Product
S645	Placed	762932	Production Engineer	Product-based	Hyundai	Product

Sheet1 (746 rows, 560 filtered rows)

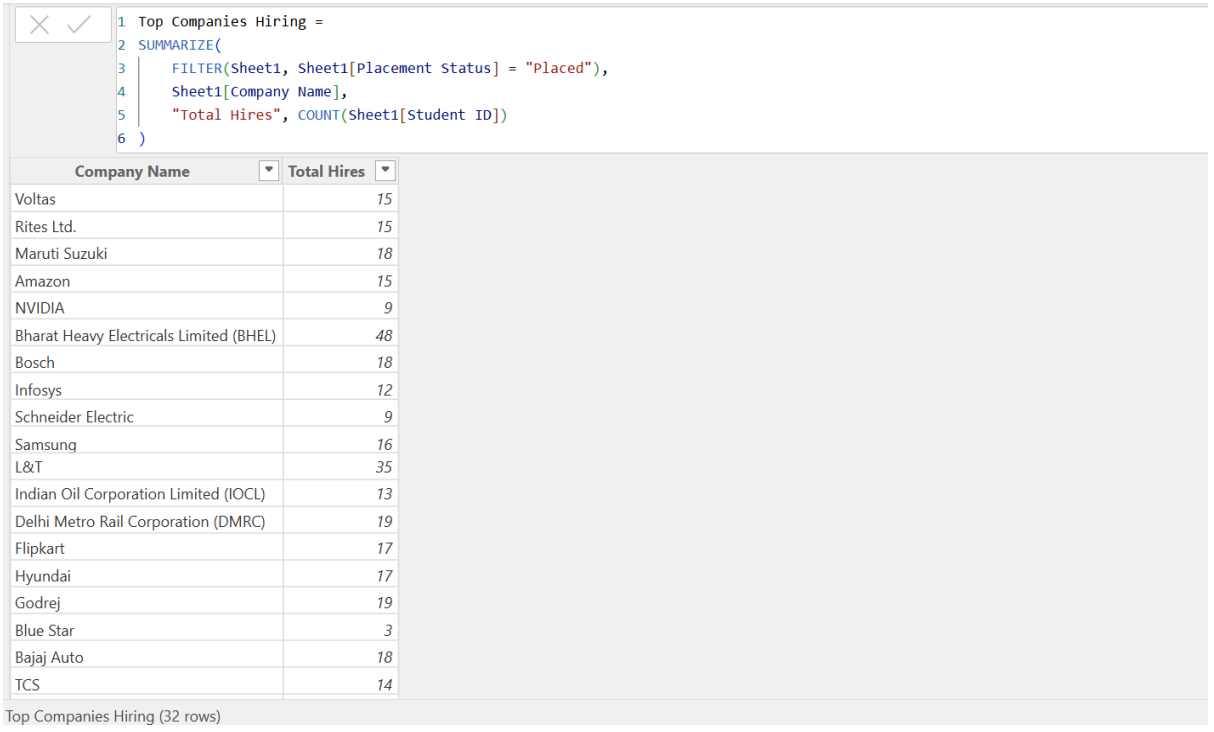
- **Sheet1 (2)** – Contains academic and enrollment data.



Student ID	Student Name	Date of Birth	Gend	Department	Location (H	Batch	10th Per	12th P	GPA	Enrolmen	Enrollmen
S004	Bhuvan Kumar	03 September 1997	Male	Computer Science	Odisha	2019	83	54	6.51151527253735	Graduated	Graduated
S005	Ishaan Mehta	11 April 1997	Male	Computer Science	Odisha	2019	62	46	6.55372548737691	Graduated	Graduated
S009	Chirag Singh	25 August 1997	Male	Computer Science	Chandigarh	2019	50	92	9.90565677504864	Graduated	Graduated
S013	Alina Patel	27 November 1997	Female	Computer Science	Uttar Pradesh	2019	48	85	4.3067737768181	Graduated	Graduated
S014	Daksh Jain	03 June 1997	Male	Computer Science	Rajasthan	2019	85	72	4.27484969699885	Graduated	Graduated
S022	Avani Jain	09 January 1997	Female	Computer Science	Haryana	2019	57	61	5.06386438267862	Graduated	Graduated
S025	Ishita Gupta	10 September 1997	Male	Computer Science	West Bengal	2019	45	80	5.82287466246984	Graduated	Graduated
S035	Arushi Mehta	03 May 1997	Female	Computer Science	Andhra Pradesh	2019	44	45	9.04297959633747	Graduated	Graduated
S037	Hana Jain	21 October 1997	Female	Computer Science	Goa	2019	41	53	5.79206833443961	Graduated	Graduated
S040	Ahaan Desai	20 December 1997	Male	Computer Science	Bihar	2019	76	45	8.55554309829324	Graduated	Graduated
S043	Aaditi Sharma	09 March 1997	Female	Computer Science	Chandigarh	2019	73	97	9.32580946198896	Graduated	Graduated
S046	Aaditi Sharma	17 March 1997	Female	Computer Science	Bihar	2019	58	69	9.16825675754819	Graduated	Graduated
S052	Ira Patel	12 September 1997	Female	Computer Science	Haryana	2019	66	63	7.76542696612706	Graduated	Graduated
S058	Avani Jain	28 March 1997	Female	Computer Science	Delhi	2019	74	59	4.47847803797415	Graduated	Graduated
S069	Aadi Varma	23 March 1997	Male	Computer Science	Delhi	2019	73	85	4.96894344398327	Graduated	Graduated
S070	Isha Sharma	12 December 1997	Female	Computer Science	Delhi	2019	97	59	8.50835528669576	Graduated	Graduated
S073	Anjali Jain	30 July 1997	Female	Computer Science	Tamil Nadu	2019	99	51	5.42608047705653	Graduated	Graduated
S075	Eklavya Singh	28 October 1997	Male	Computer Science	Andhra Pradesh	2019	52	59	4.8151946874834	Graduated	Graduated
S080	Adarsh Sharma	21 August 1997	Male	Computer Science	Kerala	2019	95	48	6.2585772086302	Graduated	Graduated
S086	Devansh Sharma	15 November 1997	Male	Computer Science	Haryana	2019	98	50	7.89459720845894	Graduated	Graduated
S094	Kiaan Jain	28 May 1997	Male	Computer Science	Delhi	2019	83	71	5.10048516895882	Graduated	Graduated
S106	Divya Gupta	30 July 1998	Female	Computer Science	Rajasthan	2020	82	77	9.80391714081971	Graduated	Graduated

: Sheet1 (2) (746 rows) Column: Gender (2 distinct values)

- **Top Companies Hiring** – Company-wise hiring data.



```
1 Top Companies Hiring =
2 SUMMARIZE(
3     FILTER(Sheet1, Sheet1[Placement Status] = "Placed"),
4     Sheet1[Company Name],
5     "Total Hires", COUNT(Sheet1[Student ID])
6 )
```

Company Name	Total Hires
Voltas	15
Rites Ltd.	15
Maruti Suzuki	18
Amazon	15
NVIDIA	9
Bharat Heavy Electricals Limited (BHEL)	48
Bosch	18
Infosys	12
Schneider Electric	9
Samsung	16
L&T	35
Indian Oil Corporation Limited (IOCL)	13
Delhi Metro Rail Corporation (DMRC)	19
Flipkart	17
Hyundai	17
Godrej	19
Blue Star	3
Bajaj Auto	18
TCS	14

Top Companies Hiring (32 rows)

- **CompanyTypeBreakdown** – Breakdown of student placements by company type.

```
CompanyTypeBreakdown =
SUMMARIZE(
    FILTER(Sheet1, Sheet1[Placement Status] = "Placed"),
    Sheet1[Type of Company],
    "Total Students", COUNT(Sheet1[Student ID])
)
```

Type of Company	Total Students
Product-based	364
Service-based	196

- Project GitHub Link

  https://github.com/BharathiNadigeni/Sure-trust-project.git

Learning and Reflection

Learnings:

- Hands-on experience in **Power BI** dashboard creation
- DAX functions for KPI derivation
- Data cleaning and modeling techniques
- Designing interactive business reports
- Enhanced understanding of placement metrics

Experience:

A highly insightful experience working on end-to-end business intelligence implementation. Improved project management, data storytelling, and technical presentation skills.

Conclusion and Future Scope

Conclusion:

This dashboard offers a comprehensive, interactive view of student placement trends, batch-wise hiring, job role distribution, and dropout analysis. It aids education al institutions in making data-driven strategic decisions.

Future Scope:

- Predictive analytics for placement success forecasts
- Integration with live recruitment APIs
- AI-powered student career recommendations
- Department-specific placement performance benchmarking