Data Story – NTI Scholarship Database Project

I started this project with a simple question:
How can I build a database from scratch that organizes scholarship applicants' data and turns it into meaningful insights?

Step 1 – Database Design

I designed the core entities that would capture the most important information:

- **Person**: applicants' details (full name, age, gender, preferred learning style).

- **Education**: faculty, graduation year, GPA.

- **Track**: the available learning tracks.

- **Expectation**: applicants' goals and the track they want to join.

- **Application_Status**: application status (Accepted, Pending, etc.).

- **Skills + Person_Skills**: applicants' skills and their levels.

- **Feedback**: evaluations and feedback.

I built the database from scratch using **SQL Server**, carefully linking the tables with **foreign keys** to ensure consistency and integrity.

Step 2 – Data Collection & Cleaning

The data was collected through a survey of **42 participants**.

Like any real dataset, it wasn't perfect:

- Some columns needed adjustments (e.g., GraduationYear was text, so I converted it to numeric).

- Temporary tables (Person11, Education11, etc.) were dropped after final loading.

- Performed basic cleaning such as fixing datatypes and handling missing values.

Step 3 – Loading & Queries

Once the cleaned data was loaded into the database, I started writing SQL queries to answer key questions:

1. What's the average age? How many females vs. males applied?

2. Who are the top students with the highest GPAs?

3. Which track is most popular? (Spoiler: **Data Analysis** 🚀)

4. Who got accepted with a high GPA?

5. What are the applicants' main goals (career shift, skill development, etc.)?

Step 4 – Insights

When I turned the raw numbers into a story, here's what I found:

Insight 1 – Age Distribution
Many applicants were above 22 years old, which shows the scholarship isn't just attracting undergraduates but also graduates seeking a career shift.

Insight 2 – Learning Preferences
Applicants shared their preferred learning styles (hands-on practice, lectures, self-learning). This helps NTI understand how to tailor its programs for maximum engagement.

Insight 3 – Gender Balance
57% of applicants were female, while 43% were male. This indicates a higher interest from female students in joining the scholarship.

Insight 4 – Education Background
Applicants came from different faculties and various graduation years. This diversity gives NTI the chance to target both current students and soon-to-be graduates.

Insight 5 – GPA Highlights
A noticeable group had a GPA above 3.0, proving that the program appeals not only to career changers but also to academically strong students.

Step 5 – Reflection

Through this project, I learned:

- How to design and build a **complete relational database** from scratch.

- How to handle **real-world imperfect data** (cleaning, type conversion).

- How to transform raw SQL queries into a **clear and compelling data story**.

Final Outcome

- Built a full database system.

- Collected real survey data.

- Cleaned, analyzed, and extracted insights.

- Presented everything in the form of a **story anyone can understand**, not just technical people.

This project proved to me that even small datasets can tell powerful stories, drive insights, and support smarter decisions.