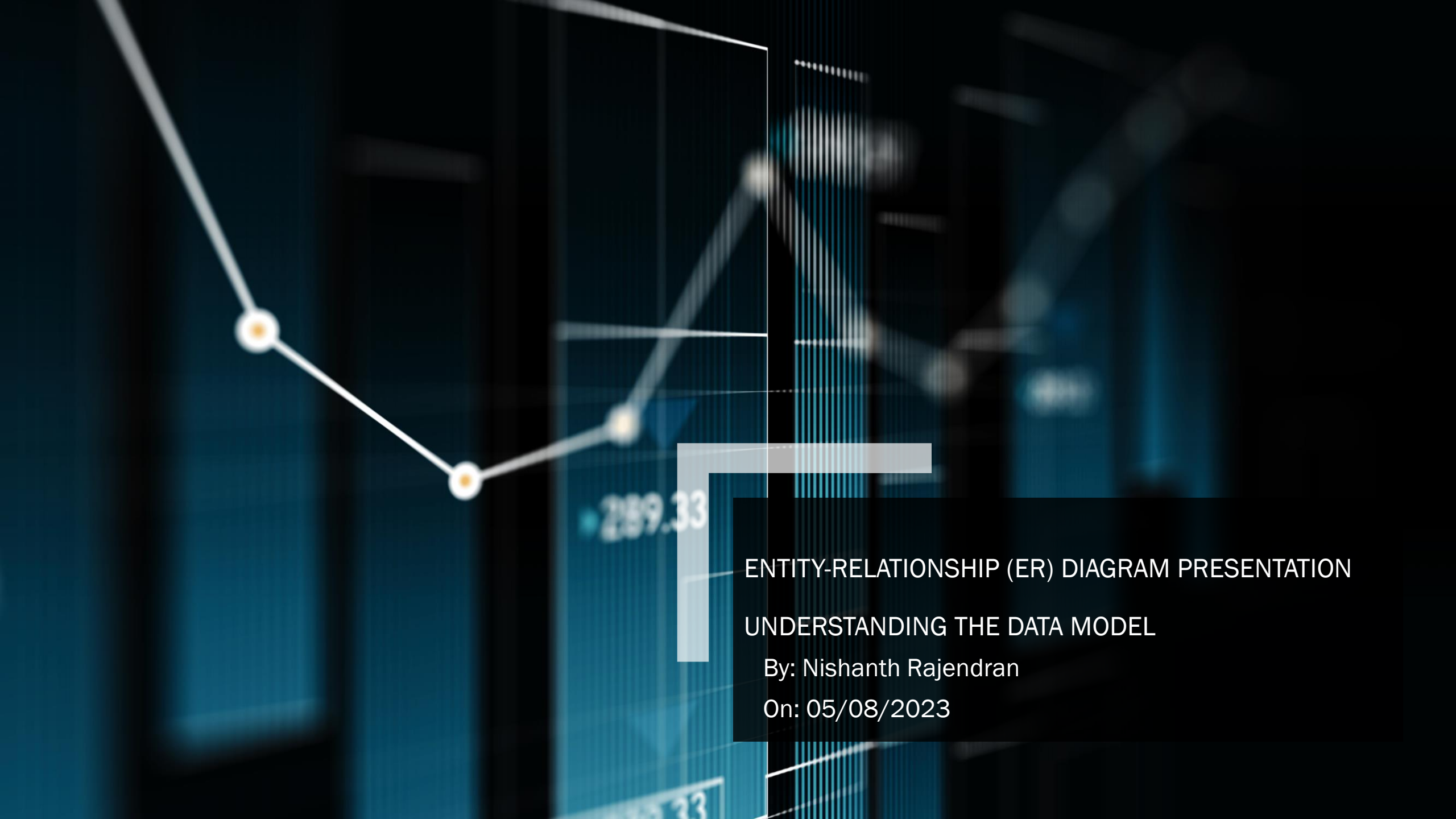

ENTITY-RELATIONSHIP (ER) DIAGRAM PRESENTATION

UNDERSTANDING THE DATA MODEL

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On: 05/08/2023

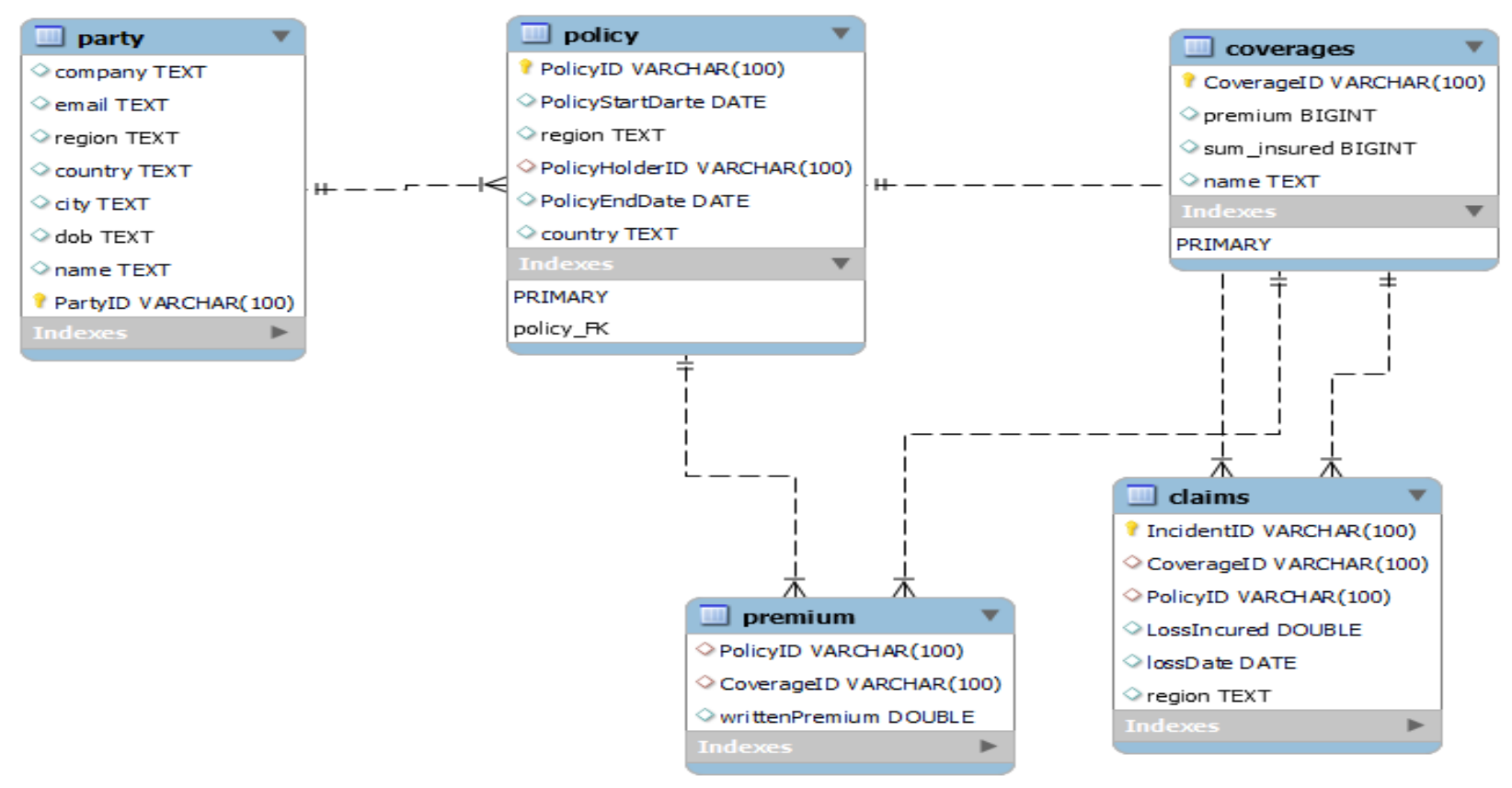
Entity-relationship diagrams (ERDs)

- What is an ER Diagram?
  - *An ER diagram visually illustrates a data model's structure, showing entities, attributes, and relationships using symbols for clear understanding of the architecture.*
- When you need an Entity Diagram ?
  - *An ER diagram aids in initial requirements capture and ongoing database optimization, serving as a reference for system design and troubleshooting.*

Components of an ER Diagram

- Entities: Entities are real-world objects or concepts that are represented as tables in a database.
- Attributes: Attributes are the properties or characteristics that describe an entity and are stored as columns in a table.
- Relationships: Relationships are the connections established between entities to represent how they interact or associate with each other in a database.

Sample ER Diagram

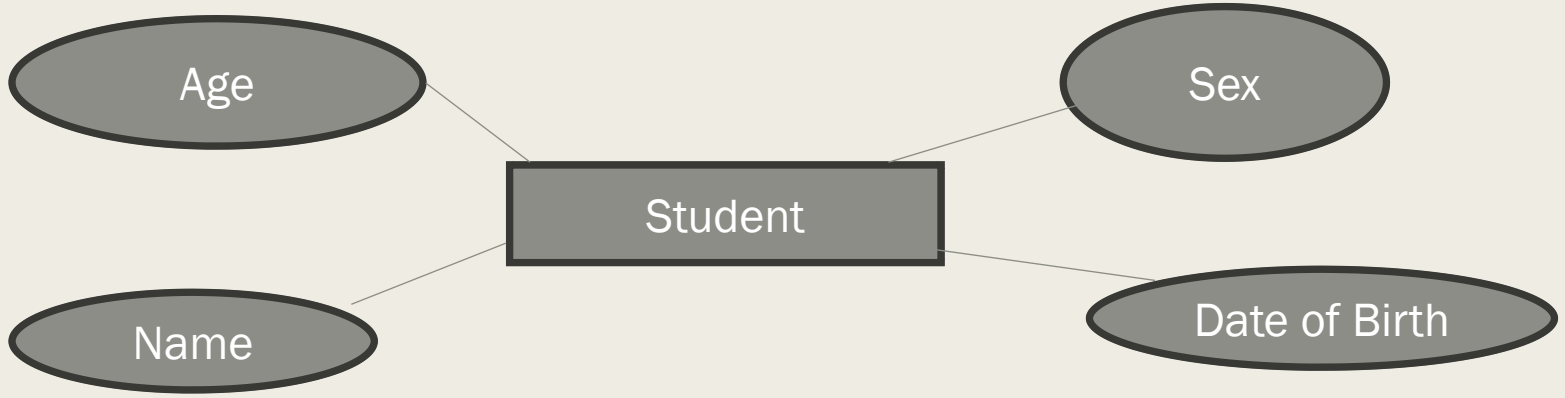


Entity

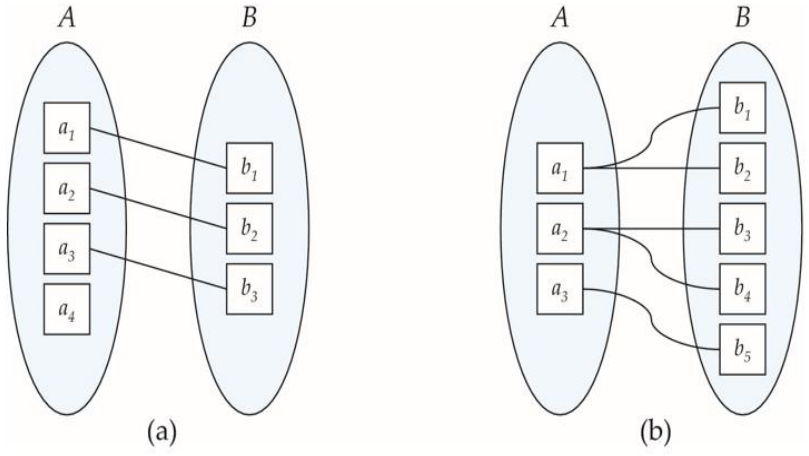
- What is an Entity ?
  - *An entity is a distinct real-world object or concept represented as a table in a database, with each row corresponding to a specific instance and attributes capturing its properties.*
- Entity Types
  - *Strong Entity (Dim Tables)*
  - *Week Entity(Fact Tables)*

Attributes

- What is an attribute?
- Types of attributes
  - *Single valued attribute eg DOB,Adhaar Number*
  - *Multi valued attribute eg Phone Number*
  - *Derived attribute eg Age*



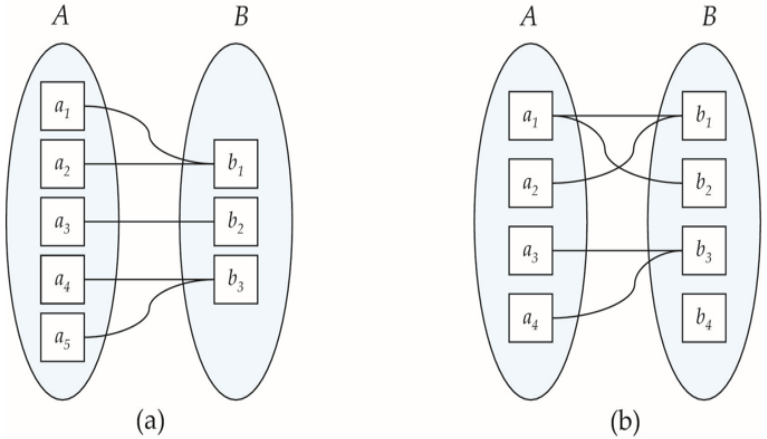
Relationships



One to one

One to many

Note: Some elements in *A* and *B* may not be mapped to any elements in the other set



Many to one

Many to many

Note: Some elements in A and B may not be mapped to any elements in the other set

Practices

- SQL Will be provided

Benefits of ER Diagram

- Visual Representation
- Clear Communication
- Database Design
- Identifying Requirements
- Normalization
- Data Integrity
- Documentation
- Database Maintenance
- Data Security
- Collaborative Design

Thank You