

# Class Discovery Document

## 1. Alumni Class:

- **Reason:** The central entity in the system, representing individual alumni. This class will encapsulate attributes such as name, contact information, graduation year, and employment details.

## 2. DatabaseConnector Class:

- **Reason:** Responsible for establishing and managing connections to the MySQL database. This class will handle operations like inserting, updating, and querying alumni data.

## 3. CLIInterface Class:

- **Reason:** Manages the command-line interface for interacting with the system. This class will handle user inputs, display outputs, and facilitate navigation through various functionalities.

## 4. AlumniManager Class:

- **Reason:** Acts as a controller or manager class, orchestrating interactions between the CLI interface, database connector, and Alumni objects. This class will contain methods for adding, updating, and retrieving alumni information.

## 5. Logger Class:

- **Reason:** Responsible for logging system events, errors, and user activities. This class will help in debugging, auditing, and monitoring the system's behavior.

## 6. Validator Class:

- **Reason:** Validates input data to ensure it meets specified criteria. This class will enforce data integrity and prevent invalid entries from being processed.

#### 7. ConfigurationManager Class:

- **Reason:** Manages system configurations and settings, such as database credentials, file paths, and CLI interface options. This class will provide methods for reading and updating configuration parameters.

#### 8. ReportGenerator Class:

- **Reason:** Generates reports and summaries based on alumni data. This class will facilitate data analysis, visualization, and presentation for stakeholders.

#### 9. ExceptionHandler Class:

- **Reason:** Handles exceptions and errors that occur during system operation. This class will provide mechanisms for graceful error handling, logging, and user notification.

#### 10. SecurityManager Class:

- **Reason:** Implements security measures to protect sensitive alumni information. This class will handle tasks like encryption, access control, and user authentication.