5.1 User

The User class represents a general user of the system, which can be either a student or an administrator. This class holds shared data like name, email, role, and Discord identity, and serves as a base entity for both **Student** and **Admin** specializations. Each user must be assigned one role and may receive multiple notifications sent through the Discord bot.

5.2 Notification

The **Notification** class represents a message sent to a user, typically via Discord, to inform them of important events such as job recommendations, updates, or system alerts.Each notification is associated with one user and includes content and a timestamp indicating when it was sent.

5.3 DiscordBot

The **DiscordBot** class represents the system's integration interface with Discord. It handles communication with users, sending messages such as job recommendations or alerts directly to their Discord accounts.The bot has credentials and a status that indicates whether it's online and functioning.

5.4 AIAgent

The **AIAgent** class represents the core artificial intelligence component responsible for recommending job opportunities to students. It works alongside the **MatchingEngine** to evaluate student profiles and deliver tailored suggestions based on learned patterns and preferences.

5.5 MatchingEngine

The **MatchingEngine** class handles the logic for matching user profiles with job opportunities. It executes the algorithm defined in the system and provides data to the AI agent to support the decision-making process.This component is independent and reusable, allowing for algorithm upgrades or different matching strategies.

5.6 Opportunity

The **Opportunity** class represents a job offer or internship available to students. Each opportunity is posted by a company and includes details such as title, description, tags, and the date it was posted.An opportunity can be suggested to one or more students by the AI agent.

5.7 Company

The **Company** class represents an organization that offers job opportunities to students. Each company can publish multiple opportunities, and its data helps students understand the context and credibility of the offers.