**AI-Guest Profiling in New Jersey Hotels**

**Title: AI-Driven Guest Profiling for Enhanced Hotel Management in New Jersey**

**Problem Statement**

Upon check-in, hotel management often lacks insights into the past behavior and specific needs of their guests. This gap can lead to:

* Misassignments: Allocating unsuitable rooms for guests with unique needs.
* Property Damage: Due to undisclosed habits like smoking or bringing pets.
* Unforeseen Misconduct: Difficulty in predicting guest behavior.
* Historical Blindness: Ignorance of guest history and past hotel behaviors.
* Discontentment: Guests not getting rooms matching their comfort preferences.

**Objective:**

To address these challenges by creating an AI model for guest profiling, aiming to enhance guest experience and bolster operational efficiency.

**Research Questions:**

* How effectively can data from guests and staff be utilized for predicting guest behavior?
* What are the capabilities of the AI model in accurately predicting guest behaviors and needs?
* What methodologies are best suited for data storage and accessibility?

(Note: Some questions were removed as they were deemed either too implementation-focused or not directly research-related.)

**Dataset:**

**Source:** Derived from guest account creation (customer end) and feedback from front desk staff (hotel management end). [LINK NEEDED FOR ACTUAL DATA SOURCE]

**Description**: Variables include guest health concerns, preferences, prior hotel behaviors, and hotel staff feedback.

**Size:** Preliminary phase involves collecting 100-500 entries. If successful, this will be expanded to an anticipated 150,000 entries annually.

**Motivation:**

**Technical:** The hotel industry can harness predictive analytics, with AI enabling precise guest profiling. This initiative delves into the fusion of data collection and AI modeling.

**Personal:** Real-world experiences underline the necessity to address these challenges. This project offers a bridge between lived experiences and technical solutions, aiming for enhanced hospitality.

**Expected Outcomes:**

**Decision-making:** Equip staff for informed room assignments and guest interaction.

**Guest Experience:** Foster a tailored hospitality experience by understanding individual guest needs.

**Risk Mitigation:** Proactively address potential property damages and disturbances.

**Operational Efficiency:** A decrease in property damages and an increase in guest satisfaction may lead to better operational efficiency and profitability.