SMART INDIA HACKATHON 2025

TITLE PAGE

- **Problem Statement ID –** SIH 25033
- **Problem Statement** – AI-Based Smart Allocation Engine for PM Internship Scheme
- **Theme-** Smart Automation
- **PS Category-** Software
- **Team ID-** GID 185
- **Team Name-** CodeMatrix

TEAM MEMBERS:
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IDEA TITLE

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IDEA / SOLUTION :

Create an AI-based platform that matches interns with roles using skills, interests, and availability. It ensures fair selection, minimizes manual work, enhances transparency, and improves efficiency in the PM Internship program

- **Smart Matching:** AI connects interns to roles based on skills and interests for the best fit.
- **Automation:** Simplifies the process by reducing paperwork and manual tasks.
- **Transparency:** Data-backed decisions ensure fairness and clarity.
- **Better Opportunities:** Helps students easily find roles that match their abilities.
- **Scalable & Fast:** Handles many applications quickly without errors or delays

Problem Resolution :

- Reduce human errors, bias, and unfair selections by using data-driven decisions
- Save time, speed up processes, and ensure smooth, transparent internship allocations for all stakeholders.

Unique Value Propositions (UVP) :

- **Fairness**: Match candidates according to their skills, not favoritism
- **Efficiency:** Automates the entire allocation process, saving time and effort
- **Scalability:** Can handle large numbers of applications without errors or delays

INTRODUCTORY PAGE

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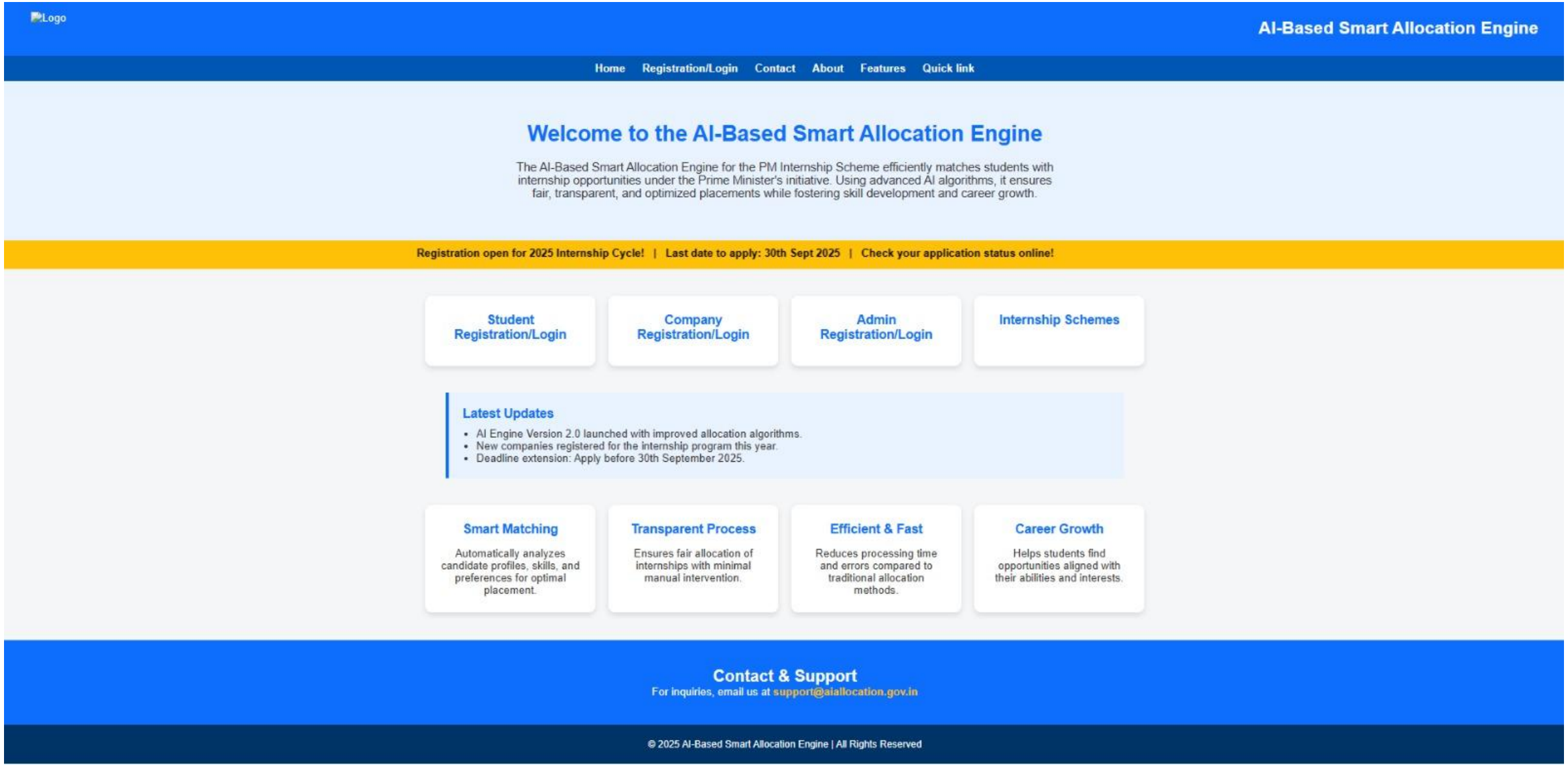

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TECHNICAL APPROACH

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Algorithm Development:

ML: To match skills
NLP: To process data
Python & Scikit-learn: For analysis of data and ranking candidates
Cloud – scale easily
APIs – connect systems

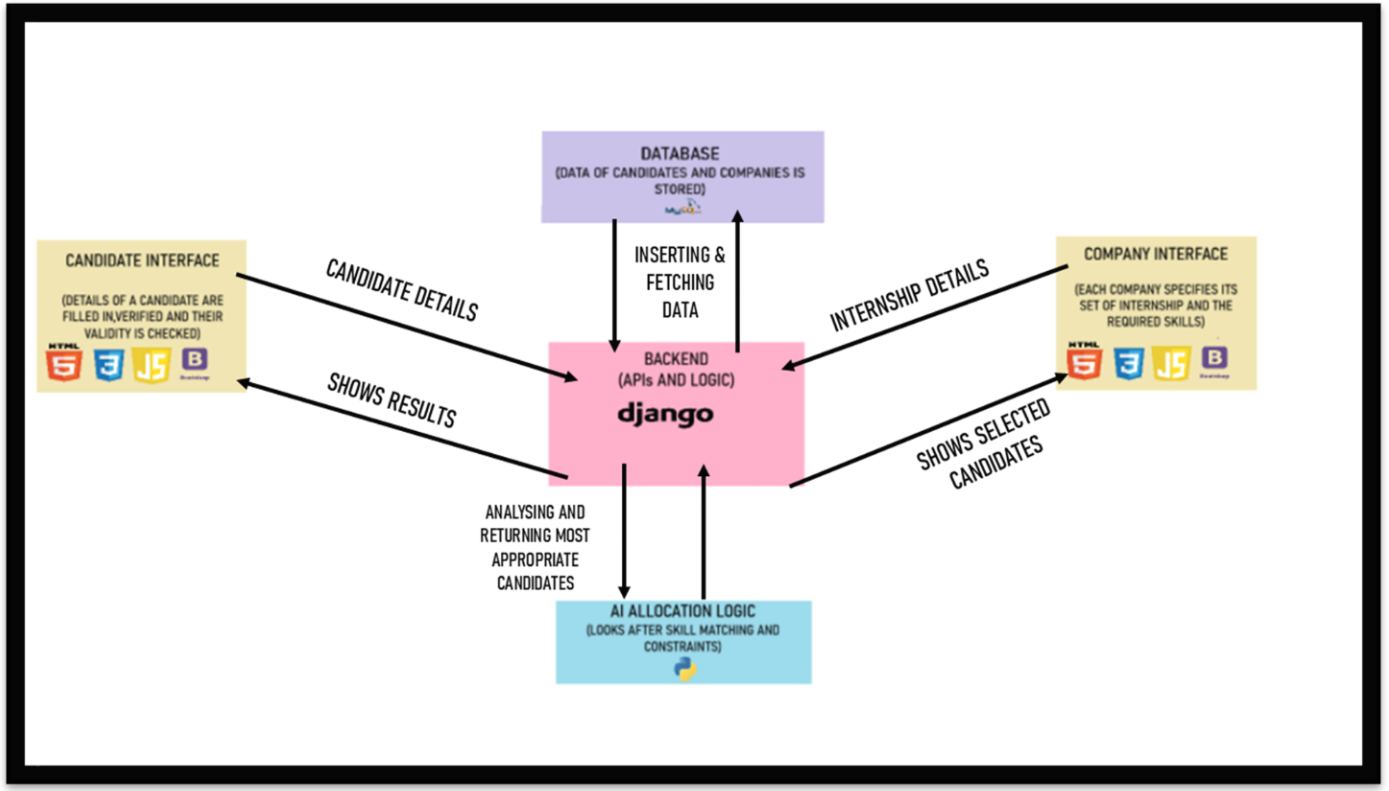
Encryption and Security:

AES & RSA: Used for encrypting sensitive data and ensuring secure communication.

Cloud Services:

MySQL - Relational database management
PHP - High responsive Rest APIs

PROCESS FLOW ARCHITECTURE



Product Status

Frontend and backend completed; Database schema designed. We are advancing the development of AI engine ; System integration has been scheduled next.

MATCHING ALGORITHM

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- Fetch description from candidates profile and internship portal
- Pre process text (remove all unnecessary characters/stop words)
- Lemmatize the text
- Convert the text into embedding vectors (using open source embedding models)
- Cluster the embeddings and find similarity using cosine distance/dot product

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FEASIBILITY AND VIABILITY

❑ Feasibility:

Technical: Tech availability & scalability.
Financial: Costs vs ROI
Market: Demand & competition
Operational: Resources and process readiness

❑ Challenges and Risks:

Technical: System/integration issues
Financial: Budget/ROI risks
Market: Low adoption, competition
Operational: Resource/process bottlenecks.

❑ Overcoming Strategies:

Methods: Agile & testing
Principle: Focus on scalability & efficiency
Strategies: Cost control & marketing
Algorithms: Encryption & AI optimization

IMPACT AND BENEFITS

1. Efficiency and costs:

Enhances satisfaction through smooth, reliable, and easy interactions.

2. User Experience:

Enhances satisfaction through smooth, reliable, and easy interactions.

3. Security & Reliability:

Protects data and ensures consistent operations.

4. Decision Making & Competitiveness:

Enables smart choices and strengthens market position.

5. Innovation & Risk Reduction:

Encourages growth while minimizing errors and operational challenges.