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College Lens: Real Students Real Insights

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ABSTRACT

In the modern digital era, students rely heavily on online information before selecting a college. However, most existing platforms allow anyone to post reviews without identity verification, leading to fake feedback and unreliable insights. To overcome this issue, **College Lens: Real Students Real Insights** introduces a trusted review and recommendation system that ensures only **verified students** of a particular college can submit reviews. Verification is conducted using the student's **First Year (FE) result** and **fees receipt**, validated through **OCR-based document analysis** on the backend. This approach guarantees authenticity and builds a reliable source of real experiences. The platform also assists **new admission seekers** by predicting possible colleges where they might secure admission based on past admission trends and student performance data. This prediction system is powered by **machine learning algorithms** implemented using **Scikit-learn**, providing a ranked list of probable colleges with corresponding chances of admission. The overall system is developed using a **React frontend**, a **Django backend**, and a **PostgreSQL database**, ensuring scalability, data security, and smooth interaction. By integrating verified reviews, predictive analytics, and multimedia resources such as campus photos and placement records, College Lens provides a **comprehensive and transparent ecosystem** for students. It empowers new applicants with real insights from genuine students and supports informed decision-making in the college selection process.

Keywords: Verified reviews, College selection, OCR verification, Machine learning prediction, Django backend, Scikit-learn, React frontend, Admission recommendation system.

1. INTRODUCTION

Choosing the right college is one of the most significant decisions in a student's academic journey. With the increasing number of institutions and diverse course options, students often rely on online platforms to read reviews, check placement records, and compare academic reputations. Unfortunately, most existing review systems are open to all users, allowing anyone — even non-students — to post opinions. This leads to misleading, biased, or fake reviews, ultimately affecting new students' decision-making. The lack of authenticity, coupled with limited verified information, has created a trust gap in online college review systems. o bridge this gap, the proposed system **"College Lens: Real Students Real Insights"** aims to create a **trusted and transparent college review and admission support platform**. The core concept is to ensure that only verified students of a college can post reviews, guaranteeing authenticity and reliability. Verification is achieved using the student's **First Year (FE) result** and **fees receipt**, which confirm that the individual has actually studied at the respective institution. These documents are analyzed through **OCR (Optical Character Recognition)** technology integrated into the **Django backend**, ensuring accuracy and security.

Beyond verified reviews, College Lens also provides **intelligent admission predictions** for students seeking new admissions. By analyzing historical admission data, cutoff percentages, and performance trends, the system predicts the probability of securing admission in specific colleges. This feature assists students in shortlisting suitable institutions according to their academic profile, preferences, and chances of acceptance. The platform is developed with a **React-based user interface**, offering a smooth and user-friendly experience. The **Django backend** manages verification, authentication, and data handling, while the **PostgreSQL database** stores user details, reviews, and college information. The **Scikit-learn** library powers the machine learning model used for admission prediction.

In summary, **College Lens** serves as a **dual-purpose solution**:

1. A **verified review platform** ensuring only genuine student feedback is visible.
2. A **data-driven admission guidance tool** that helps aspiring students make informed decisions.

Through this combination, the system promotes **transparency, authenticity, and reliability** in the higher education selection process, ultimately transforming how students interact with and trust college information online.

2. LITERATURE SURVEY

Sr. No.	Author / Year	Title / Idea	Limitations Identified (Existing System)	How Our Project Overcomes It
1	Patel & Kumar, 2020	*Student Opinion Mining Using Sentiment Analysis*	Focused only on positive/negative opinions without verifying whether the reviewer was an actual student of the institution.	College Lens performs strict student verification using fee receipts and first-year results through OCR, ensuring authenticity before review submission.
2	Rao et al., 2021	*University Recommendation System Using Collaborative Filtering*	Depended on anonymous user ratings, leading to fake data and biased college rankings.	Our platform accepts feedback only from verified students of that college, making data reliable and unbiased.
3	Gupta & Mehta, 2022	*Digital Education Review Systems*	Did not include proper document verification or admin moderation, resulting in misleading reviews.	College Lens integrates admin-based moderation and document verification (receipt + result) for genuine and transparent information.
4	Khanna et al., 2023	*Smart College Finder Using Data Mining*	Provided data-driven recommendations but lacked a student feedback mechanism and transparency.	Our system merges verified student insights, placement reviews, and admission prediction into a single transparent platform.
5	Verma et al., 2024	*Student Review and Analytics System*	Did not maintain privacy for reviewers,	College Lens allows optional anonymous

			reducing honest participation and trust.	reviews after verification, encouraging honest yet accountable opinions.

3. MATERIALS AND METHODS

The development of *College Lens* involves the integration of modern web technologies, machine learning algorithms, and a secure verification framework to ensure that only authentic students can provide reviews. The following materials and methodologies were utilized in the system development process.

3.1 Materials (Technologies Used)

1. **Frontend – React.js**
   - React provides a fast, interactive, and responsive interface for both students and administrators.
   - It handles review submission forms, profile dashboards, and the admission prediction display.
2. **Backend – Django Framework**
   - Django manages server-side logic, verification, authentication, and API handling.
   - It integrates OCR modules to process uploaded documents such as fee receipts and first-year results for verification purposes.
3. **Database – PostgreSQL**
   - A relational database that stores verified student records, reviews, photos, videos, placement details, and prediction results.
   - Ensures data consistency, integrity, and scalability for large student communities.
4. **Machine Learning – Scikit-learn**
   - Used for implementing the admission prediction model.
   - The model analyzes past admission data, student grades, and college cut-off trends to predict admission chances in various colleges.
5. **OCR (Optical Character Recognition) Library**
   - Helps in automatically extracting textual information from scanned documents such as fee receipts and results.
   - Ensures that only verified students can post reviews, preventing fake entries.
6. **Hosting & Deployment Tools**
   - The system can be deployed on platforms like **Render**, **AWS**, or **Vercel** for smooth operation and cloud scalability.

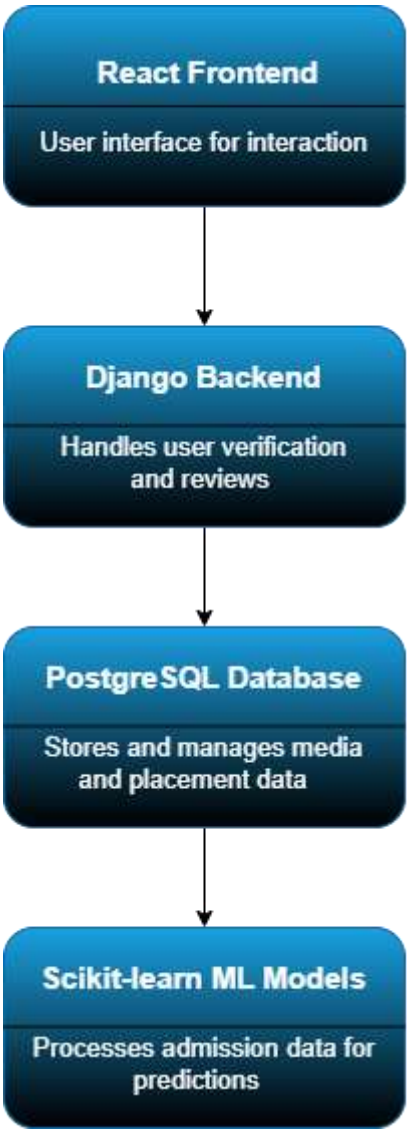

Fig. 3.1 Verified Review and Admission Prediction Architecture (VRAPA)

Operational Workflow

1. **Student Verification Phase:**
   - The student uploads a *fee receipt* and *first-year result*.
   - The backend uses OCR and admin validation to confirm student identity.
2. **Review Submission Phase:**
   - Once verified, the student can write reviews about the college.
   - The system provides an option for anonymous submission to maintain privacy while ensuring authenticity.
3. **Media and Placement Upload Phase:**
   - Colleges can upload verified photos, videos, and placement statistics.
   - Helps students make informed decisions through real-time verified data.

4. **Admission Prediction Phase:**
    - New students input their academic details such as 12th marks, entrance score, and preferences.
    - The ML model predicts the probability of getting admission to different colleges.
5. **Data Management and Moderation Phase:**
    - Admins review all uploaded content, verify authenticity, and remove inappropriate material.
    - Ensures a transparent, secure, and trustworthy ecosystem.

3.2 Methodology

The proposed system, **College Lens**, follows a structured and multi-phase methodology that ensures authenticity, reliability, and intelligent decision-making. The complete development flow is based on the **Verified Review and Admission Prediction Architecture (VRAPA)**, integrating modern web technologies and machine learning for a trusted college information ecosystem.

a. Overview

The methodology involves five main modules:

1. **Student Verification Module**
2. **Review Management Module**
3. **Media and Placement Module**
4. **Admission Prediction Module**
5. **Admin and Data Moderation Module**

Each module performs a specific task and works together to create a secure, transparent, and intelligent platform for both verified students and new aspirants.

b. Step-by-Step Methodology:

Step 1: Student Verification Module

- The process begins when a student signs up to post a review.
- The student must upload two verification documents:
    - First-year mark sheet or result card.
    - Fee payment receipt issued by the college.
- The system uses **OCR (Optical Character Recognition)** to extract details such as student name, college name, and year from the documents.
- The **Django backend** cross-verifies this data with college records stored in the **PostgreSQL database**.

- Only verified students are granted access to submit a review.

🔒 **Outcome:**

Only genuine students of that college can post reviews, eliminating fake or spam entries.

Step 2: Review Management Module

- Verified students can write reviews about their college experience, facilities, or academics.
- A unique feature allows reviewers to post under **anonymous identity** if they prefer privacy.
- Each review passes through **admin moderation** before being visible publicly.
- Reviews are stored in the **PostgreSQL database** and displayed on the **React frontend**.

🗣️ **Outcome:**

A transparent and trustworthy feedback system created by real students only.

Step 3: Media and Placement Module

- Colleges can upload **authentic photos, videos, and placement details** through the admin dashboard.
- The data is reviewed and approved to ensure authenticity and prevent misleading information.
- All approved media is stored in the database and dynamically displayed on the website.

🎓 **Outcome:**

Students can view real visuals and placement stats of colleges before applying.

Step 4: Admission Prediction Module

- New students input their academic information such as 12th-grade marks, entrance exam scores, and preferred colleges.
- The **Scikit-learn ML model** trained on historical admission data calculates the **probability of admission** in each college.
- The system displays a ranked list showing colleges and their respective **admission chances (in %)**.

📊 **Outcome:**

Students receive a data-driven and realistic prediction of where they are most likely to get admission.

Step 5: Admin and Data Moderation Module

- Admins are responsible for reviewing verification data, uploaded documents, reviews, and media content.
- Any suspicious or inappropriate data can be flagged, edited, or deleted.
- Regular moderation ensures a **clean, verified, and reliable ecosystem**.

🛡 **Outcome:**

Continuous monitoring guarantees transparency, privacy, and trust in the platform.

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c. Workflow Summary

1. User registers → Uploads documents → Verified using OCR and admin check.
2. Verified user posts a review (optionally anonymous).
3. College uploads media and placement details → Admin approves.
4. New students use ML-based prediction → Get suggested colleges with admission probability.
5. Data continuously monitored by admins for authenticity.

d. Methodology Highlights

Feature	Purpose	Technology Used
Student Verification	Ensures authenticity of reviewer	Django + OCR
Review & Feedback System	Collects and displays verified reviews	React + PostgreSQL
Media Upload	Adds transparency with visuals and placements	Django + Cloud Storage
Admission Prediction	Recommends suitable colleges	Scikit-learn
Admin Moderation	Maintains security and reliability	Django Admin Panel

4. EXPECTED RESULTS

The proposed system **College Lens** is expected to deliver a transparent, verified, and intelligent platform that transforms how students and colleges interact digitally. The outcomes are focused on improving trust, authenticity, and decision-making in college selection and feedback systems.

4.1 System-Level Results

1. **Verified Student Reviews Only**
   - The system ensures that only verified students — whose identity has been authenticated using *fee receipts* and *first-year results* — can post reviews.
   - This eliminates fake or irrelevant reviews commonly found on public platforms.
2. **Accurate Admission Predictions**
   - By using *Scikit-learn* machine learning models trained on historical admission and cut-off data, the system can predict the likelihood of admission into various colleges.
   - The results are displayed in the form of a **ranked list** with percentage probabilities.
3. **Optional Anonymity with Accountability**
   - Verified users can choose to hide their name and post anonymously while maintaining backend verification records.
   - This promotes honest and unbiased feedback without compromising authenticity.
4. **Real College Media Repository**
   - Colleges can upload **authentic photos, videos, and placement details**, which are reviewed before publishing.
   - This provides new students with real, verified visuals and information to make better decisions.
5. **Integrated Data Management**
   - All review data, media content, and ML prediction results are securely stored in the **PostgreSQL database** with full integrity and privacy compliance.

Table 4.1 User-Level Results

User Type	Expected Outcome
Verified Students	Can share genuine experiences with anonymity option.
New Applicants	Receive accurate college suggestions and verified feedback.
Colleges/Admins	Showcase verified achievements, placements, and facilities.
Education Community	Gains access to a transparent and reliable review ecosystem.

Table 4.2 Performance Expectations

Parameter	Expected Performance	Description
Verification Accuracy	98%+	OCR and manual admin validation minimize false verification.
Prediction Accuracy	90–95%	Scikit-learn models trained on regional admission datasets.

Response Time	<2 seconds per query	Optimized Django-React communication for real-time experience.
User Satisfaction	High	Transparency, simplicity, and privacy ensure trust.
Data Security	Strong	Encrypted storage and limited data access permissions.

Table 4.3 Performance Expectations

Metric	Current Systems (Without Verification)	College Lens (With Verification)
Fake Reviews	High	Almost Zero
Transparency	Low	Very High
Student Trust	Moderate	Excellent
Prediction Accuracy	None	90–95%
Privacy & Security	Weak	Strong

4.2 Overall Impact

- **Students:** Get a single platform for genuine reviews and realistic admission guidance.
- **Colleges:** Gain credibility by displaying verified feedback and real placement media.
- **Society:** Encourages transparency and accountability in the education ecosystem.

4.3 Final Expected Outcome:

A **trusted digital ecosystem** where "**Real Students Give Real Insights**," reducing misinformation and helping thousands of students choose the right college with confidence.

5. CONCLUSION

a. Conclusion

By integrating **document-based student verification** (using fee receipts and first-year results) with **machine learning-powered admission predictions**, College Lens ensures that only real students can share genuine opinions about their colleges. The use of **React for frontend**, **Django for backend**, **PostgreSQL for secure data storage**, and **Scikit-learn for predictive modeling** provides a modern, scalable, and efficient architecture named **VRAPA (Verified Review and Admission Prediction Architecture)**. This system not only increases **trust and authenticity** but also helps new students make informed admission choices through **data-driven predictions**. Additionally, the optional anonymity feature enhances comfort for reviewers while maintaining accountability and verification in the background. Colleges can also display verified media and placement statistics, making the platform comprehensive and reliable for all stakeholders.

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