Merit Matrix Match: Data Driven Decision Making for University Application

Shafiq Bin Rasulan
Physics Unit)
Sarawak Matriculation College
Kuching, Malaysia
bm-3542@moe-dl.edu.my

Yip Hiong Chang
Students Affairs Unit)
Sarawak Matriculation College
Kuching, Malaysia
yip@kmsw.matrik.edu.my

Abstract

This paper proposes a data-driven reference platform to improve undergraduate course selection for students in Malaysia's centralized university admission system (UPU). While UPU publishes national merit averages for courses, localized disparities persist, leading to mismatched applicant expectations. The proposed innovation aggregates alumni admission data (e.g., academic merit, course offers) from Sarawak Matriculation College—where top-choice success rates rose from 80.4% (2021) to 95.6% (2024)—and visualizes it via Looker Studio, enabling students to compare their merit against historical offers. Developed using design thinking (empathize-define-ideate-prototype-test), the platform addresses key gaps: (1) overestimation of eligibility due to lacking localized benchmarks and (2) absence of alumni-based reference tools. Pilot testing showed 80% of users found the system intuitive, decision-supportive, and aesthetically appealing, with strengths including streamlined counselor guidance and merit summarization. Limitations include exclusion of interview-based courses and sparse alumni data for niche fields. Future work integrates AI-driven recommendations and expands coverage to all Malaysian Matriculation Colleges.

Index Terms

Artificial Intelligence, Educational analytics, University admissions, Alumni data, Student counseling