

VAAL UNIVERSITY OF TECHNOLOGY



**VAAL UNIVERSITY
OF TECHNOLOGY**

Inspiring thought. Shaping talent.

FACULTY : Applied and Computer Sciences

DEPARTMENT : Computer Sciences

SUBJECT : Business Analysis

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Declaration

We, LESELE KG, SHILENGE VB, NGWENYA NA, THOBAKGALE TT, SKOSANA T,
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Declare that the contents of this project represent our own unaided work, and that the project has not previously been submitted for academic examination towards any qualification. Furthermore, it represents our own opinions and not necessarily those of the Vaal University of Technology.

Signed by Kamogelo and Others.

2024/10/18

AI Student Capital

1. Project Overview

The AI platform is designed to connect students with innovative project ideas to investors. This system leverages AI to analyse the project details submitted by students and matches them with suitable investors based on project relevance, industry, and investor interests. The platform aims to streamline the process of finding investors for student-led innovations, encouraging investment in new, creative ideas.

2. Problem Definition

Many students have creative and innovative project ideas but lack the necessary funding or connections to bring their projects to life. On the other hand, investors are often looking for fresh, unique ideas to support, but they may not have easy access to projects aligned with their interests or industries. This disconnect creates a gap where students with promising projects struggle to find the necessary investment, while investors miss out on valuable opportunities.

By using AI, we aim to solve the problem of matching students with relevant investors more efficiently, thereby promoting innovation and helping students achieve success.

3. AI Objective

The main objective of this AI solution is to automatically match students' projects with suitable investors by analysing the details of each project and comparing them to investor profiles. The AI system will consider several factors, including:

- The industry the project targets
- The potential market impact
- Investor preferences (such as industries of interest and investment amounts)
- Historical data of successful projects in similar industries

4. Key Features of the AI Solution

a) Project Analysis

The platform will use **Natural Language Processing (NLP)** to analyse the project proposals submitted by students. This AI-powered analysis will break down key aspects of the project, such as the industry, target audience, and project goals.

b) Investor Matching

Using **machine learning algorithms**, the system will compare the analysed project data with investor profiles. The algorithm will factor in:

- Industry focus
- Previous investments by the investor
- Risk tolerance levels this will ensure that students are connected to investors most likely to be interested in their projects.

c) Recommendation System

An **AI-based recommendation engine** will suggest relevant investors to students and send project pitches to selected investors. This approach will automate the traditionally manual process of seeking investment.

d) Predictive Success Rating

Using historical data from previous successful investments, the AI will also assign a **success rating** to student projects, giving investors an idea of the potential for growth and return on investment.

5. Implementation Strategy

Step 1: Data Collection

Collect data from students (project submissions) and investors (investment profiles). The data will include:

- Industry type
- Project description

- Investment preferences this data will form the backbone of the matching and recommendation system.

Step 2: Model Training

Use machine learning to train the model on previous successful matches between students and investors, allowing it to learn which criteria matter most when connecting projects with the right investors.

Step 3: NLP for Project Understanding

Implement **Natural Language Processing** to automatically extract key information from student project descriptions, such as innovation type, market potential, and technical feasibility.

Step 4: Machine Learning for Matching

Develop the matching algorithm, which will compare the analysed project data with investor profiles. Use algorithms such as **k-Nearest Neighbours (k-NN)** or **Decision Trees** to suggest suitable investors based on multiple factors like risk level and industry focus.

Step 5: System Integration and Testing

Test the AI platform to ensure that matches are relevant and refine the algorithm using feedback from both students and investors.

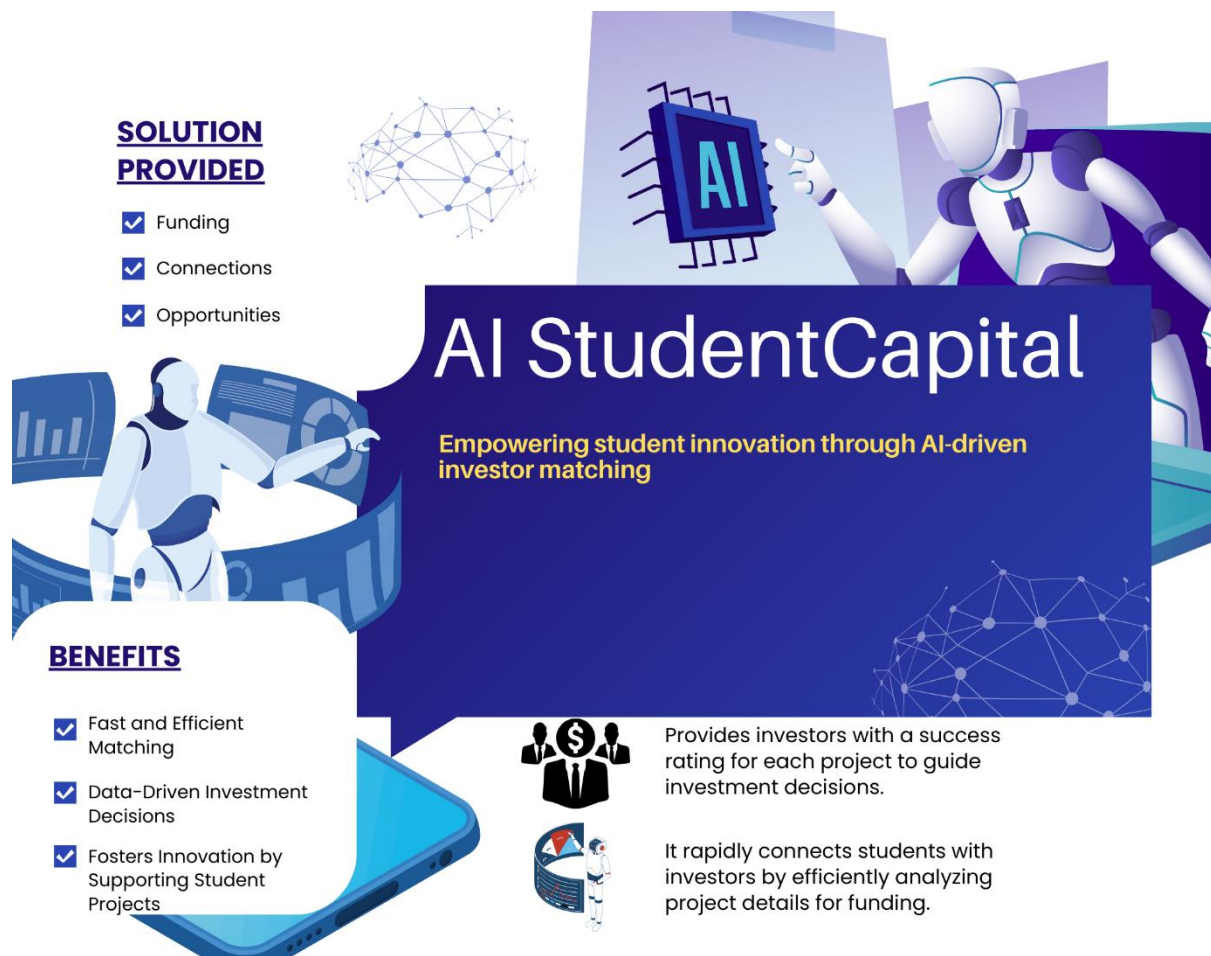
6. Tools and Technologies

- **Programming Language:** Python
- **Frameworks:** Flask or Django for backend development, Scikit-learn or TensorFlow for machine learning.
- **NLP Libraries:** Spacey or NLTK for processing project proposals.
- **Database:** Use SQL or NoSQL for storing data on projects and investors.
- **Cloud Platforms:** AWS or Google Cloud for scalable hosting.

7. Benefits of the AI Platform

- **Efficient Matching:** The AI reduces the time students spend looking for investors and vice versa.
- **Improved Investment Decisions:** Investors get a success rating for each project, helping them make better-informed decisions.
- **Promotion of Innovation:** Students gain access to funding for innovative ideas, helping bring more creative solutions to life.

8. Poster



Conclusion

This AI solution aims to bridge the gap between students with promising ideas and investors looking for innovative projects. By automating the matching process and providing valuable insights, the platform will encourage investment in student projects and contribute to fostering innovation.