



Student Sphere AI

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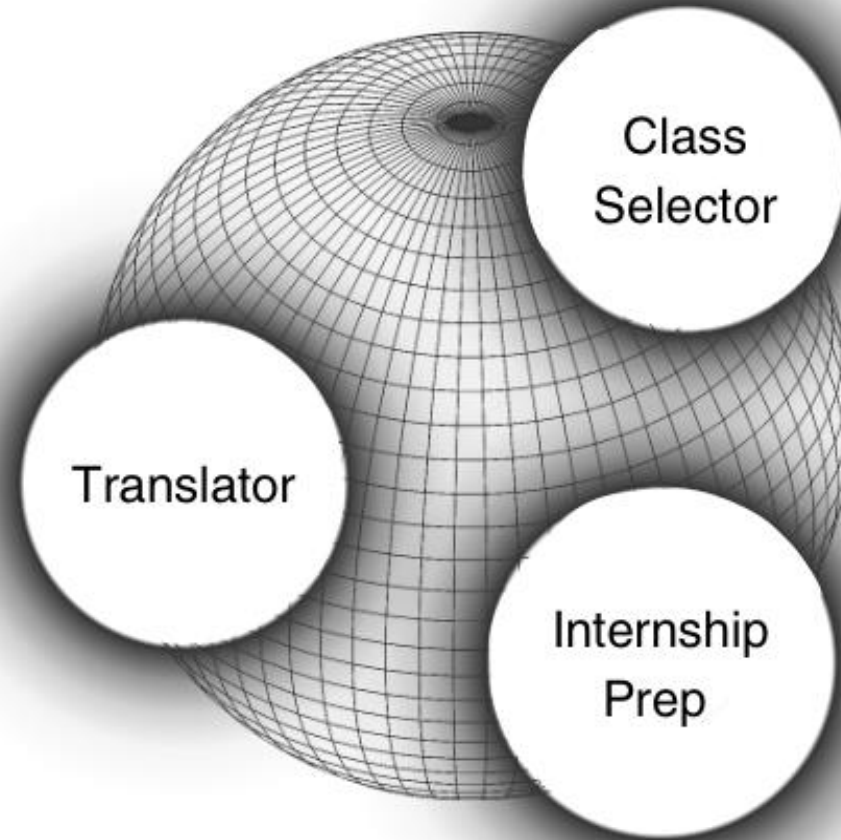
Mohammad Mustafa S Ahmed

What is Student Sphere AI?

It is a 3 in 1 application that is focused on helping specifically UMB students with multiple different areas, allowing students to succeed

- It works together in a step-by-step process
- 1) **Curriculum Planning** – focuses on helping create rough draft of classes to take each semester to graduate on time
 - 2) **Translator** – focuses on helping students translate assignments and class materials for students whose first language isn't English
 - 3) **Career Preparation** – A career preparation tool that boosts your confidence with AI-driven mock interviews and quizzes, generates ATS-optimized resumes and cover letters, and delivers real-time industry insights.

Student Sphere AI Landing Page



Curriculum Planning - Allyson

Idea: It came as there was a problem with my own degree audit which caused very unnecessary stress. I wanted to produce solution to eliminate any doubt throughout the process of registering for classes.

Survey research says 60% of students also experience problems with course scheduling [link](#)

How to Use:

1. Take a survey which you would input your desired schedule/class preferences and major.
2. Then let the program create the schedule for you!
3. If you don't like the first draft, ask for another!

Design:

- Programmed with prerequisites for each class, the classes that are offered only in spring/fall, and any other data/details from current/previous UMB course catalogs
- By default, chooses gen ed and elective requirements first 2 years
- Before selecting classes, students fill out a survey asking what they are majoring in, what they are interested in learning about, the workload students prefer (test heavy or assignment heavy classes), online or in person classes, MWF or TUTH schedule, etc.
- Keywords, chosen based off the class descriptions, associated with each class are used to select the class based on the survey results.

Translator - Angel

Idea: it came up as I started to think about what our school and students in general might need in order to succeed.

- 10-13% of students are international students (UMB)
- 59% of students at UMass Boston reported speaking a language other than English at home – 70+ different languages
- Even students who understand their native language better (but aren't considered international students) can benefit
- One study conducted at Universitas Airlangga found that about **68%** of international students experienced stress due to language barriers in academic settings—which often includes difficulties with translation in assignments
- UNESCO estimates that **40%** of school-aged children don't have access to education in a language that they understand

Overview

An AI tool that focuses on helping international students translate course material; homework, other assignments, lectures, presentations and other things into their native language for a better understanding of the topic.

- **Key point:** I want it to be better than the already existing translator apps out there, with more accuracy and a more targeted audience (students)

Features

- ☐ Text Translation
- ☐ Speech to Text
- ☐ Image Translation
- ☐ Live Captioning
- ☐ Terminology Glossary

Benefits

- Helps them overcome barriers; academic & social
- Assists with writing essays, reports, and assignments in a non-native language
- Translates complex terms and academic jargon
- Has a wide variety of languages (multi-language support), adaptive learning, note-taking integration (allows annotate translations with their own notes)
- Group collaboration feature (share translated notes with classmates or others)
- Custom language models (training them for academic language and terminology) - tech fields/medical field/business field
- Adaptive learning model (suggestions for improving translations accuracy – AI based)

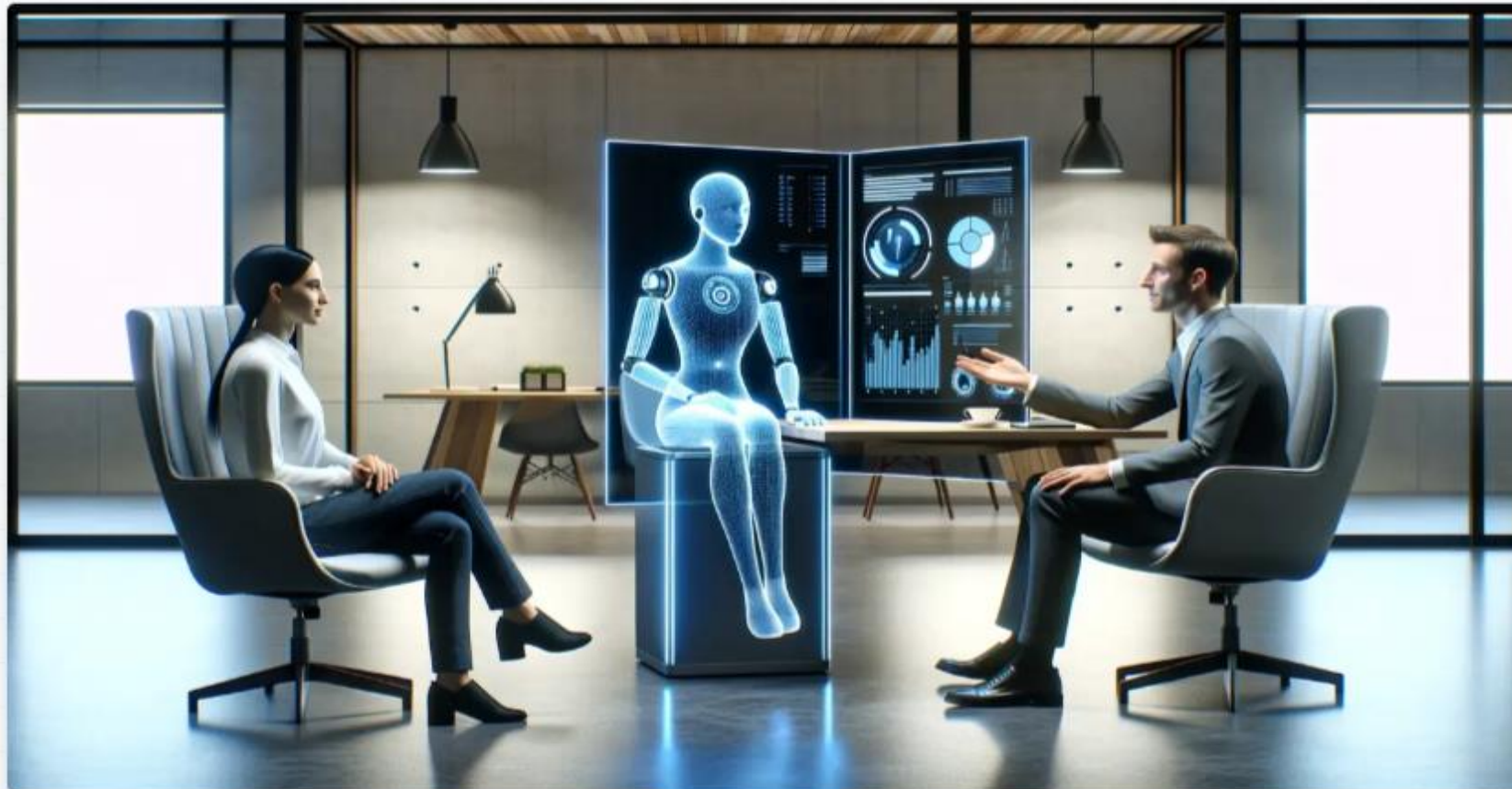
Career Preparation Tool - Mohammad

Accelerate Your Career With AI-Powered Coaching

Master interviews, build confidence, and unlock your professional potential with personalized AI guidance.

Get Started

Contact me



Overview

- Only 20% (roughly 1 in 5) applicants get invited for interviews source: <https://legaljobs.io/blog/interview-statistics>
- Pain Point: Need for a career tool which can guide students to increase their chances of getting a job
- AI tool helping UMB students navigate job searches, optimize applications, and master interviews
- Delivers industry insights, ATS-optimized resumes, and unlimited interview practice
- Provides personalized feedback from AI prompted to evaluate like actual hiring managers

Key Features (Benefits)

Real-Time Industry Analytics

- Field-specific skills in demand analysis
- Job growth projections and trends
- Salary prediction and growth across positions

ATS-Optimized Document Creation

- Resume generator with industry-specific keywords
- Resume templates which passes ATS screening
- Personalised cover letter generator by parsing through your resume

Unlimited Interview Preparation

- AI-powered mock interviews for any position
- Technical assessment practice
- Behavioral question training
- Detailed feedback from AI prompted to act like a "hiring manager"

Why It's Superior to Campus Resources

Availability

- 24/7 access vs. limited appointment slots
- Unlimited practice vs. few sessions
- Instant feedback vs. waiting periods

Personalization

- Industry-specific guidance vs. general advice
- Can work with you to improve your weak points
- Updates with real-time job market changes

Technology/Tools (StudentSphereAI)

AI Technologies

- **Gemini AI:** Powers industry insights, jobs and skills in demand analysis, and generates interview and quiz questions tailored to user's specific field
- **Speech-to-Text API:** Enables voice feature during mock interviews
- **LangChain:** Parses user resumes and extracts skills for personalised cover letter generation
- **Google Cloud Translation API:** Provides multilingual support

Core Development

- **Next.js:** Server-side and client-side JavaScript framework for responsive web application
- **Clerk:** Secure authentication system for user accounts and data protection (only umb accounts allowed)
- **PostgreSQL:** Database to store all user and application data such as resumes, course details, student schedule data etc.
- **Prisma:** ORM that simplifies database interactions and data modeling
- **Inngest:** Schedules processes like market updates and interview practice reminders

Document Tools

- **ReactPDF:** Generates downloadable resumes and cover letters in multiple formats
- **ATS Simulator:** Tests documents against standard applicant tracking systems
- **Tailwind CSS:** Creates professional document templates and styling our applicaiton

Technology Cost Breakdown based on 15,000 active users

AI Technologies

- **Gemini AI:** \$2,000-3,000/month
- **Speech-to-Text API:** \$0.006 per 15 seconds × ~30,000 hours = \$4,320/month
- **LangChain:** Open-source framework, hosting costs only = \$200/month
- **Google Cloud Translation API:** \$20 per million characters × ~10M chars = \$200/month

Core Development

- **Next.js:** Open-source framework, hosting costs only = \$400-600/month
- **Clerk:** \$0.05/user × 15,000 active users = \$750/month
- **Prisma:** Open source, database costs = \$300-500/month
- **Inngest:** Free tier for first 100K users, then \$0.50 per 1K events = ~\$200/month
- **PostgreSQL:** Managed hosting with backups and storage = \$290-520/month

Document Tools

- **ReactPDF:** Open source, server costs = \$150-250/month
- **ATS Simulator:** Custom development maintenance = \$300/month
- **Tailwind CSS:** Open-source framework, no direct costs

Total Monthly Estimate

- Core Infrastructure: \$2,300-3,000/month
- AI/ML Services: \$6,470-7,000/month
- **Total Estimated Cost: \$8,770-10,000/month (\$0.58-0.70 per student/month)**

(used ai to help calculate costs)

Security Measures

- End-to-end encryption for all student data
 - Secure authentication via Clerk
 - Privacy focused design with data minimization, only saving data absolutely necessary.
- Students have the right to opt out of their data being saved.

Conclusion

We wish to ease the stressful parts of the college experience. Whether you're planning your curriculum, needing translation assistance, or preparing for your career, our AI Sphere, covers every stage of your college journey and can help make your college experience less stressful! Student Sphere AI is here for when you start college to when you are preparing to move on.



THANK YOU!