Harness LLMs to Help Students Succeed

For this project you will leverage advanced technologies and LLMs to personalize math problems and in the process ignite an interest in students who too often think math is not for them.

For this effort, you will use...

▶ Full stack software engineering to generate and provide exercises based on a theme provided by a tutor.

▶ Javascript Vue framework to develop a website tailored for tutors.

▶ AWS cloud to support server side deployment.

▶ Best practices for application development and deployment: testing, containerization, and automated continuous integration and deployment.

THE PROJECT

The Saga Cohort will be tasked with utilizing large language models (LLMs) to take generic math problems and transform them into themed exercises for tutors to use in tutoring sessions.

The goal is to increase student engagement and interest by leveraging their tutor's knowledge of their non-math interests.

The team will report directly Saga's lead engineer overseeing the project and will be supported by the larger team as needed.

THE WORK AND WHY IT MATTERS

Our software engineering team supports Saga's bold vision by building best-in-class products. Today this includes Saga Connect, Saga Coach, and Spark Math. Saga Connect is an online learning platform for live tutor-student interactions. It enables our tutors (AmeriCorps fellows) to deliver high quality online math instruction. It was ranked as the best online platform for live instruction by the College Board, and today, we are proud to support the use of it by other organizations.

SAGA EDUCATION

Saga is a national nonprofit that serves thousands of students with high-dose math tutoring during their regular school day. Fueling this work is a bold vision to combat educational inequity by unlocking the power of personal relationships to nurture academic, social and emotional growth for young people in low income communities. For more information about Saga's mission, please visit us at saga.org.

YOUR TEAM

▶ 3–6 Students., fully remote.

▶ Standard NDA

▶ Saga to retain Intellectual Property rights

WHAT YOU WILL LEARN:

▶ Prompt engineering for the latest large language models

▶ Programming for the modern web

▶ Current techniques for managing deployment and scaling in the AWS cloud

▶ Containerization technologies (Docker)

THE BOTTOM LINE

We invest a lot in our cohorts and have led numerous successful projects with past teams from Mines. We expect a lot from our teams, so if you are ready to work and want to learn (drink from the firehose), we are your shop.

We have hired interns from successful team projects in the past, and we will again.

> **The results that Saga is generating are remarkable and among the finest interventions ever rigorously studied at the high school level."**
>
> The University of Chicago Urban Education Lab

> ## I knew Saga had my back."
>
> Donald, student

> **The program really is remarkable, transformative... and not just for me and my students, but also for my teachers."**
>
> Ramona Fannings Outlaw
> Principal, Harlan High School

> **If we can [expand Saga's approach] for the school and for the city and around the country, we are going to have a lot more kids be successful."**
>
> Arne Duncan
> former U.S. Secretary of Education

We believe when every student has access to a relationship that helps them see their potential, every student can achieve it. And envision a new story, for their school, for their community. For themselves. Help us reach more students. Learn more at **SagaEducation.org**

saga
EDUCATION