

AI SCHOLARS LIVE ONLINE

**ARTIFICIAL INTELLIGENCE INTENSIVE
FOR HIGH SCHOOL STUDENTS**

By Stanford Alumni and Graduate Students

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Mission

WHAT IS AI SCHOLARS LIVE ONLINE?

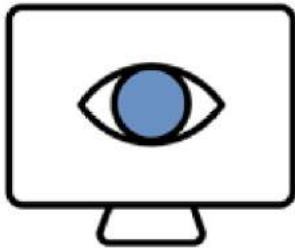
What do self-driving cars, Alexa, and iPhone's face recognition technology have in common? They are driven by modern advances in Artificial Intelligence. AI Scholars Live Online is a **pre-college enrichment program** that exposes curious high school students globally to AI through live online classes, with a **student-teacher ratio of 4:1**. The program is developed and taught exclusively by **Stanford alumni and graduate students specializing in AI**. **Learn more at: www.inspiritai.com**

WHY AI SCHOLARS?

We started Inspirit AI to inspire **students of all interests** at an early age to understand and apply Artificial Intelligence to **improve the world**. The potential to use this technology for good is limitless. We hope to bring the most recent developments in AI from courses and labs in Silicon Valley to **empower high school students globally**. With AI Scholars Live Online, Inspirit AI now gives students the flexibility to access our program from the comfort of their homes.

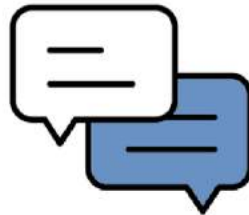
Why AI Now?

Whether you're interested in *law, healthcare, art, or economics*, AI is poised to transform almost every discipline and industry in the future. At the core of Inspirit AI's mission is to equip our students to lead impactful and successful careers. AI is already all around us today, and by the end of the program, students will understand the underlying concepts and motivations behind technology **such as:**



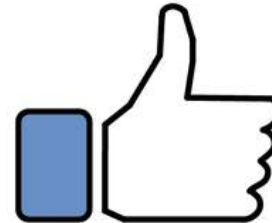
COMPUTER VISION

Self-Driving Cars
Facial Recognition
Medical Diagnosis



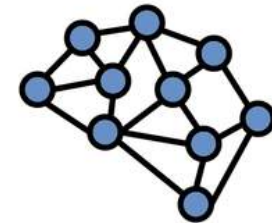
NATURAL LANGUAGE PROCESSING

Alexa
Siri
Google Home



RECOMMENDATION ENGINES

Netflix
Spotify
Amazon



DEEP LEARNING

Google Translate
Autocorrect
Chatbots

Worldwide Impact

We've had the fortune of guiding **students** with interests across healthcare, robotics, art, economics, journalism, and more from **30+ countries** in learning fundamental AI concepts, preparing for college admissions, and applying their passions to achieve social good. **45%** of our students come to the program with no previous background in CS.



Program Outcomes



AI FOR SOCIAL GOOD PROJECT

Students develop fundamental AI skills and apply them to a **mentor-led group project** that they later **present** during a **final showcase**. Students gain access to an **online portal** for continuous learning after the program, including additional projects in a variety of domains.



AI CAREERS AND VENTURES

Students learn from **industry** and **academic guest speakers** about AI's impact in domains such as healthcare, transportation, and chat applications. Students receive guidance on pursuing various careers that involve AI.



PRE-COLLEGE PREPARATION

Students attend **workshops** aimed to prepare them for leading CS and AI programs in the US. Students gain inspiration from successful Stanford **admission essays** and learning how to communicate their project experiences effectively.

Student Testimonials: Live Online



ALLY BUSH

Lakeside High School, Seattle
Summer 2020

*"The Inspirit AI camp was an incredible whirlwind of information...During the two weeks when I worked on my project, I not only learned about coding, but also **formed connections** with three **project teammates** from **around the world**. Attending this camp helped me realize my **passion for STEM**, and the **supportive instructors** happily supplied **resources** for me to pursue it further!"*



DIVYA GANESAN

Castilleja School, Palo Alto
Summer 2020

*"I have never attended a program that makes AI so **accessible** for high school students. Not only did I learn how to **build various models**, I also understood how they worked and how I could **apply them** to my own passions for **history** and **political science**. Inspirit AI has equipped me with the **tools** and **mentors** to pursue artificial intelligence further with a strong foundation."*



ISHA JAGADISH

Saratoga High School, Saratoga
Summer 2020

*"Surrounded by a group of **welcoming instructors** and **peers** from all around the world made me feel like I could be **open** and ask questions. I particularly enjoyed my time working in the **Healthcare Project group**, where I got to dive into the cross section of **medicine** and AI. I hope to return next year to expand my knowledge of AI and to use the concepts that I learned in this program to help me in my future endeavors."*

Student Testimonials: In-Person



ANANYA GROVER

The Shri Ram School, Aravali
Summer 2019

“The Inspirit AI summer program helped me grasp fundamental AI concepts in a surprisingly short amount of time. In addition to coding, I broadened my perspective dwelling on ethical questions directly from people working on them. At the intersection of my passions for tech and journalism, I got to work on a fake news detection AI model!”



TARUN PAPARAJU

Greenwood High International School, Bangalore
Summer 2019

“The camp was a fantastic experience because I had the opportunity to meet so many instructors with experience in AI research and industry. I also met a lot of fellow students with similar passions as mine. Moreover, I learned the importance of socially impactful AI and AI ethics during the camp”



AASHI TYAGI

Emirates Academy, Dubai
Winter 2019

“Our instructors Tyler and Sandra did an excellent job equipping us with the knowledge needed to become stalwarts in the field of Artificial Intelligence. They made sure that we never left class with any doubts or questions. I feel like the program has equipped me with the skills I need to be a part of the future.”

Our Team



DANIELA GANELIN

Director of Curriculum

Education: *MIT* Master's in Computer Science (AI), *MIT* Bachelor's in Computer Science and Math, *MIT* Teaching License

Research: Studying economic disparities in online education, diagnosing dementia with machine learning, creating AI-generated images, and improving recommendation engines.



ARTEM TROTSYUK

Instructor

Education: *Stanford* PhD candidate in Bioengineering, *Stanford* Master's in Computer Science, *UC Davis* Bachelor's in Biology, Minors in Communication and Writing

Research: Using bioengineering tools coupled with artificial intelligence to improve wound healing outcomes in diabetic patients. Developing AI-powered smart bandages with a closed-loop system for personalized medicine.



ANNA SAPPINGTON

Instructor

Education: *Marshall Scholar* Graduate work in AI/ML, *MIT* Bachelor's in Computer Science and Biology

Research: Anna was part of multiple AI labs at MIT including Aviv Regev's lab and Sangeeta Bhatia's lab. She has applied AI to genomics with the goal of mapping every cell in the human body.

Our Team



AKSHAY JAGADEESH

Instructor

Education: *Stanford* PhD in Vision Science, *UC Berkeley* Bachelor's in Computer Science and Cognitive Science

Research & Teaching: Analyzing artificial neural networks and understanding what computations the human brain performs to give rise to perception. Helped design and teach several courses at UC Berkeley and Stanford ranging from computer vision to neurobiology to the science of meditation.



GRETA FARRELL

Curriculum Developer

Education: *MIT* Bachelor's in Economics

Teaching: Has experience student-teaching in a variety of schools: urban, rural, suburban, as well as public, charter, private, and boarding. Before joining Inspirit as a curriculum developer, she taught middle and high school math from pre-algebra to pre-calculus and developed mastery-based curricula at the Khan Lab School.



CHRIS PIECH

Faculty Advisor

Education: *Stanford* PhD in Artificial Intelligence, *Stanford* Bachelor's in Computer Science

Research & Teaching: Assistant Professor of Computer Science at Stanford, teaching introductory programming, probability, and artificial intelligence courses. Faculty advisor for the Stanford course, "Artificial Intelligence for Social Good."

Teaching Principles



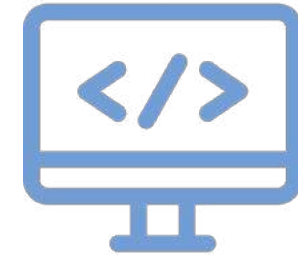
Student Teacher Ratio of 4:1

With a student-teacher ratio of 4:1, students receive **personalized instruction** and guidance online, meeting during their designated time slot and communicating through video and chat.



Design-Thinking Approach

Students participate in design-thinking games to stimulate **creativity, cross-disciplinary thinking, and contextual problem solving.**



Project-Based Collaboration

Students **dynamically interact** with material in **close-knit teams** to build socially impactful solutions, leading to an overall **rich social experience** in the virtual context.

Program Dates

Programs run for **10 sessions** of **2.5 hours** each during the Spring Semester and Summer break.

All sessions are in **Pacific Standard Time**.

SUMMER BREAK

WEEKDAY COHORTS: Monday — Friday (2 weeks)

June 7th - June 18th
June 21st - July 2nd
July 5th - July 16th
July 19th - July 30th
August 2nd - August 13th

WEEKEND COHORTS: Saturday — Sunday (5 weeks)

May 8th - June 6th
June 12th - July 11th
July 17th - August 15th

TIMES

8:00am - 10:30am
12:30pm - 3:00pm
7:00pm - 9:30pm *Weekday Only

Application Details

Apply at www.inspiritai.com/apply

DEADLINE

Summer Program: **April 30th, 2021**

STUDENT BACKGROUND

High school students grades 9 – 12

No programming experience required

Advanced cohort placement available

Students with all interests are encouraged to apply!

SHORT ANSWER QUESTIONS

1. Why are you interested in joining the Inspirit AI Scholars program? (150 words)
2. Describe an AI project you would like to work on. (Optional)

PROGRAM FEE

Program fee is \$900 for admitted students via secure online payment.

There is no application fee.

AI For Social Good Project Tracks



AI + HEALTHCARE

E.g., With computer vision, diagnosing patients based on medical scans such as X-rays.



AI + SUSTAINABILITY

E.g., Using AI to efficiently place energy creating sources (wind, solar, gas) across a country to maximize coverage.



AI + MOBILITY

E.g., Applying AI to create a safe and synchronized auto pilot system for cars.



AI + ETHICS

E.g., Leveraging machine learning to predict returns of portfolios and create optimal combinations of assets.

Featured Projects

AI can apply to almost **every discipline** from health to art, finance, and more. Our team of graduate students at leading U.S. universities have **diverse experiences** and will **mentor projects** in a variety of domains.

AI + Mental Health:

Digital Phenotyping to Detect Schizophrenia

In this project, students will use modules such as **Pandas**, **Matplotlib**, and **Scikit-learn** to examine the distribution of **smartphone sensor** and **survey data**. Students will build models that will predict depression and relapses in the hopes of initiating preemptive treatment. Along the way, students will also discuss the **ethical implications** of data gathering and erroneous predictions.

DEVELOPED BY

Peter Washington

Stanford PhD Student and
Researcher in AI + Accessibility



AI + Astronomy:

Searching for Exoplanets

In this project, students will use data collected from **NASA's Kepler space telescope** to train AI models to **detect** and **characterize exoplanets**. Finding exoplanets could help us discover **alien life!** Students will also gain experience in training models with **imbalanced classes of data**.

DEVELOPED BY

Kaylie Hausknecht

Harvard Astrophysics
Student and NASA Intern



Featured Projects

AI + Healthcare:

DNA Detectives for COVID-19

In this project, students create machine learning models to **trace** the geographic origins of **COVID-19** strains to help understand its spread. Students learn about the biology behind the virus and techniques for working with **genomic data**. Students also apply advanced techniques like **dimensionality reduction** for building more accurate models from complex biological datasets.

DEVELOPED BY

Brianna Chrisman

Stanford PhD Student and
Researcher in computational
genomics



AI + Finance:

Algorithmic Trading

In this project, students use machine learning for algorithmic trading in financial markets with techniques from unsupervised learning, supervised learning, and reinforcement learning. Students build skills in Numpy, Pandas, Scikit-learn, and Keras. At the end of this project, students will have a model that they can actually use to trade stocks and build a portfolio!

DEVELOPED BY

Aansh Shah

Brown University M.S. in
Computer Science and
Amazon Engineer






Curriculum: Part 1

In the first half of the program, students learn AI's core technologies including **applications**, **foundational concepts**, and **programming tools** through live video classes and collaborative mini-projects.

SAMPLE SCHEDULE

	SESSION 1	SESSION 2	SESSION 3	SESSION 4	SESSION 5
8:00am	Intro to AI	Machine Learning	Natural Language Processing	Computer Vision	AI Ethics
	Statistics & Probability	Regression & Classification	NLP: Bag of Words	Neural Networks	Convolutional Neural Networks
10:30am	Python & AI Libraries	Regression Hands-On	NLP Hands-On	Neural Networks Hands-On	Deep Learning

PROGRAM COMPONENTS

-  APPLICATIONS
-  CONCEPTS
-  PROGRAMMING

Curriculum: Part 2

In groups of 4-5, students complete a **mentor-led AI for Social Good project** where they apply the programming skills developed in Part 1. Students also attend virtual workshops aimed to provide inspiration for **college essays** and **AI-related careers**.

SAMPLE SCHEDULE

	SESSION 6	SESSION 7	SESSION 8	SESSION 9	SESSION 10
8:00am	Case Study: AI in Healthcare	Case Study: Reinforcement Learning	Case Study: Chatbot Applications	Mentor-led Project Hands-On	
	College Essay Workshop	CS / AI in College	Designing AI Projects	Project Storytelling	Project Presentations
10:30am	AI for Social Good Project Intro	Mentor-led Project Hands-On	Mentor-led Project Hands-On	Digital Poster Session	

PROGRAM COMPONENTS

- APPLICATIONS
- COLLEGE PREP
- PROJECT BUILDING

College Preparation

Students attend **online workshops** that will help **prepare** them for **competitive university** programs and admissions.



**COLLEGE ESSAY
WORKSHOP**



**COMPUTER SCIENCE / ARTIFICIAL
INTELLIGENCE AT UNIVERSITY**



**COLLEGE
ADMISSIONS PANEL**

Online Portal

Students gain access to our online portal for use **during and after the program.**

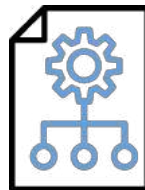
ELEMENTS OF ONLINE PORTAL



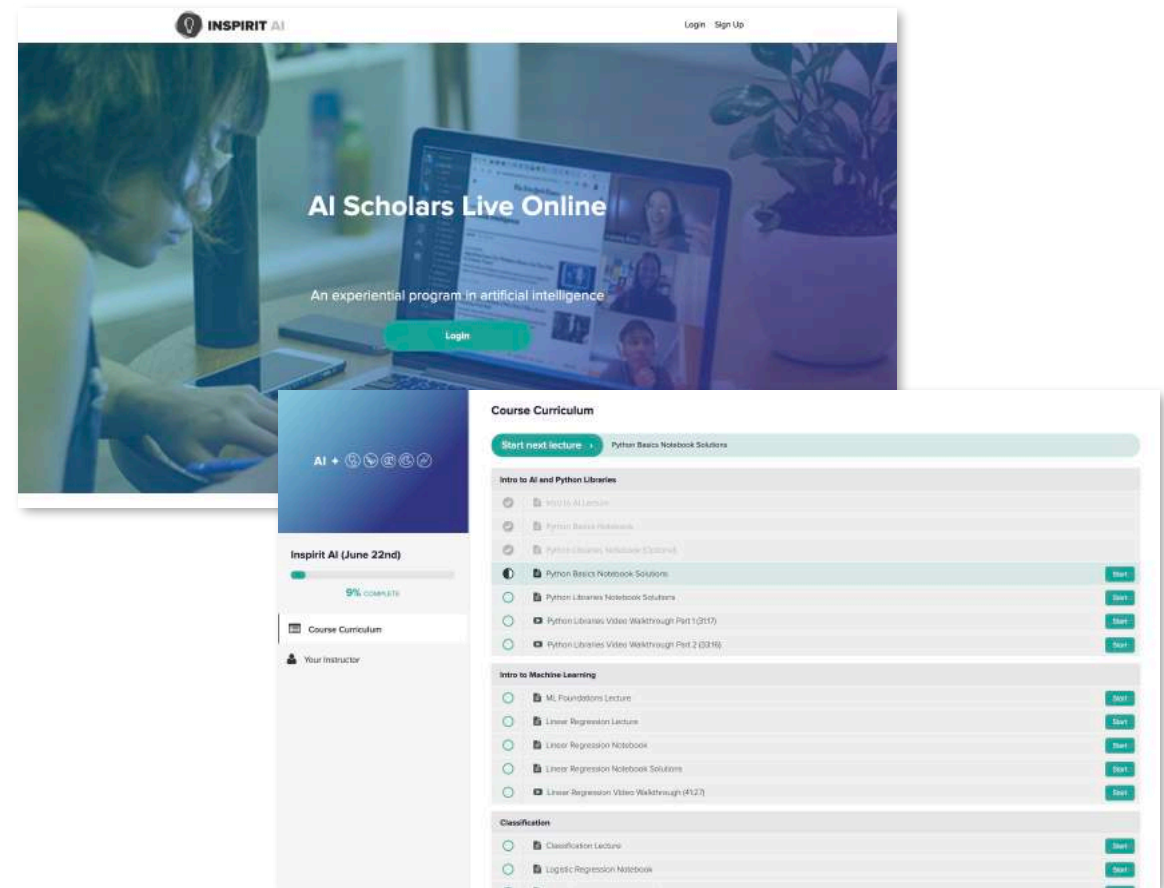
Quizzes on AI concepts



Coding exercises



12+ AI projects in
healthcare, transportation,
biology, media, and more



Contact Info

QUESTIONS?

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