

# JUNIOR EXPLORER PROGRAM







### NOTE FROM THE PROGRAM DIRECTOR

As a kid, I remember asking questions that stumped my parents. They would always answer - but I could tell that I was just pressing at the edge of their knowledge.

Looking back, I wish I had a mentor who was as nerdy as I was about my interests (in 7th grade it was economics for me!). That's why I started Lumiere and our Junior Explorer program. In the program, you work 1-1 with a world-class expert to explore an area that excites you (I'm one of the mentors)!

Last year, we had over 5000 students apply to our programs. It's not a great fit for all students – we're usually best for ambitious and gifted students. But, for those for whom it makes sense, we're excited to help you explore.

#### **DHRUVA BHAT**

Harvard College '17 Oxford PhD, Rhodes Scholar





## LUMIERE BY THE NUMBERS

2022-2023 SCHOOL YEAR

4200+

Applications

1400+ Mentors 22000+

Mentoring hours

62 Countries \$390,000+

In financial aid



## WE HELP STUDENTS



#### EXPLORE YOUR ACADEMIC INTERESTS

Work with a mentor from a top university 1-on-1 to explore your interests in a field of your choice e.g Engineering, Business, Biology etc



#### BUILD A MEANINGFUL PROJECT

Create a research report OR Create a presentation OR Create something else (Surprise us!)



#### PREPARE FOR HIGH SCHOOL OR COLLEGE

Build reading, writing, critical thinking, problem solving, and innovation skills to excel in your academic journey





## AVAILABLE EXPLORATION TRACKS

### STEM

- Computer science
- AI & data science
- Psychology

- Physics & astrophysics
- Economics
- Biology, medicine, and public health

- Engineering
- Mathematics

## HUMANITIES AND SOCIAL SCIENCES

- Business, entrepreneurship, and strategy
- History, international relations, and government
- Environment studies
- Sociology and anthropology





## **OUR MENTORS**

#### Lumiere has **1400+** mentors from top universities









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	Technology

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Yale







## **EXAMPLE MENTOR PROFILES**





CAITLIN NICHOLS HARVARD UNIVERSITY PhD in Biological and Biomedical Science

#### SPECIALIZATION

Cancer Genetics, CRISPR Gene Editing, Molecular Biology PRAISE OWOYEMI UNIVERSITY OF CALIFORNIA, LOS ANGELES PhD student in Clinical Psychology

SPECIALIZATION Psycho-oncology, Clinical Psychology, Health Psychology



BHARGAV GOPAL COLUMBIA UNIVERSITY PhD in Economics

SPECIALIZATION Labor Economics, Law and Economics, Applied Statistics



SANAH BHIMANI YALE UNIVERSITY PhD candidate in Physics

SPECIALIZATION Cosmology (Evolution of the Universe), Exoplanet Data Analysis



SAMUEL LEITER MIT UNIVERSITY PhD candidate in International Affairs

#### **SPECIALIZATION**

Nuclear Proliferation, Preventive War, East Asian Security, Alliance Politics







## JUNIOR EXPLORER PROGRAM

An 8-week program for middle school students to explore their academic interests while building a project they are passionate about





WEEKS 1-4 Explore different tracks

WEEKS 5-6 Deep dive into one topic area and define your project



WEEKS 6-8

Build your project with support from the mentor



### WHAT THE PROGRAM COULD LOOK LIKE FOR YOU

#### Example 1: Biology, medicine, and public health track

WEEK 2 Exploration What causes diseases and how can we prevent them? WEEK 4 Exploration How do species adapt and survive in a changing world? WEEKS 7-8: Working on the project A 5 page research report

WEEK 1 Exploration How is the human body structured? WEEK 3 Exploration Understanding genetics and gene-editing WEEKS 5-6 Identifying a Research Question

Exploring CRISPR and its potential to treat sickle cell anemia, a genetic disease

#### Junior Explorer Program





### WHAT THE PROGRAM COULD LOOK LIKE FOR YOU

#### Example 2: Business, entrepreneurship, & strategy

WEEK 2 Exploration How to craft a winning business plan WEEK 4 Exploration Financial literacy for entrepreneurs WEEKS 7-8: Working on the project Harvard business school style case study

WEEK 1 Exploration Exploring the key components of

ventures

successful business

WEEK 3 Exploration How do effective branding and marketing foster customer loyalty WEEKS 5-6 Identifying a case study How did LEGO become successful brick by brick?



### WHAT THE PROGRAM COULD LOOK LIKE FOR YOU

Example 3: AI & data science track

WEEK 2 Exploration What is natural language processing (NLP) and how is it used to create a chat bot? WEEK 4 Exploration How do computers recognize faces and voices?

WEEKS 7-8: Working on the project A presentation sharing the findings

WEEK 1 Exploration Understanding the fundamentals of data Science

#### WEEK 3 Exploration

How to make sense of data through analysis and visualization

WEEKS 5-6 Identifying a data analysis project forecasting weather patterns in New York city

#### Junior Explorer Program



### WHAT THE PROGRAM COULD LOOK LIKE FOR YOU

#### Example 4: History track

WEEK 2 Exploration Why is it important to remember the Holocaust? WEEK 4 Exploration What did Christopher Columbus's voyage reveal about the new world? WEEKS 7-8: Working on the project A 7-10 page literature review

#### WEEK 1 Exploration

What can ưe learn from ancient Egypt: The land of Pharaohs? WEEK 3 Exploration How did Rosa Parks spark the civil rights movement? WEEKS 5-6 Identifying a research question How did the Nile river influence the daily life and agriculture of ancient Egyptians?



## OUR PROGRAM

Program goal	Explore an academic field with an expert and build a unique project.			
Structure	Weekly 1-1 virtual sessions with a mentor			
Duration	8 weeks			
Student profile	Grades 6-8			
Pre-requisites	No prior experience required			
Output	High school level project			
Cost	\$2400 Financial aid is available			

### LUMIERE RESEARCH INCLUSION FOUNDATION

In 2022, we officially launched a 501(c)(3) non-profit, the Lumiere Research Inclusion Foundation, that provides free high-quality research opportunities to talented, financially disadvantaged students.

#### What We Do

At the foundation, we pair talented students with volunteer mentors to do the Junior Explorer Program at no cost.

#### **Our Impact**

**35** Countries expanded outreach to 1500+ Applications in the

past year

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175

Students supported through aid

To apply for our foundation, select **yes** for the question "**Would you like to apply for need-based financial aid scholarship?**" in our application



## SELECTED STUDENT PROFILES



KATHLEEN



LILY



ARAL

#### **PROJECT TOPIC:**

Gender barriers that students face in accessing computer science education

#### LUMIERE EXPERIENCE:

"Lumiere allowed me to believe I can do research and helped me do something I never imagined I would be able to. Because of you all, I'm not so scared that I will succeed in high school and college

#### **PROJECT TOPIC:**

How can the standard model of particle physics be consistently extended to include additional light-matter fields, and how might such fields explain dark matter?

#### LUMIERE EXPERIENCE:

"Lumiere truly helped me a lot! The admissions office at Princeton called my mentor and asked him questions about me. Because the university values research a lot, I got in! Thank you so much because with this program and this chance I would never ever be able to attend and get a full ride."

#### PROJECT TOPIC:

Analyzing life on Exoplanets

#### LUMIERE EXPERIENCE:

Using data from NASA's exoplanets archive, Aral and his mentor aimed to gauge the level of habitability of various planets by analyzing factors like temperature, distance from star, eccentricity, etc. Aral learned how to use the NumPy library for the first time and also grappled with the nuances of data analysis.





## APPLICATION TIMELINE

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Application: Fill out an online application form before the deadline



Interview: Shortlisted students will be scheduled for an interview



Mentor Match: Selected students will be matched with a mentor in their selected track

Start the program!



## APPLICATION DEADLINE & PROGRAM DATES

FALL 2024	0	<b>Application Deadlin</b> 25 <sup>th</sup> Aug, 2024	e	<b></b>	<b>Cohort Timing</b> 16 <sup>th</sup> Sept, 2024
WINTER 2024	C	<b>Application Deadline</b> 24 <sup>th</sup> Nov, 2024		<b></b>	<b>Cohort Timing</b> 16 <sup>th</sup> Dec, 2024
SPRING 2025	C	<b>Application Deadline</b> 9 <sup>th</sup> February, 2025		<b></b>	<b>Cohort Timing</b> 3 <sup>rd</sup> March, 2025
SUMMER 2025	0	Application Deadlin Early Admission: 9 <sup>th</sup> February, 2025 Priority Admission:	<b>e</b> Regular Admission 1: 13 <sup>th</sup> April, 2025 Regular Admission 2:	2	<b>Cohort Timing</b> 2 <sup>nd</sup> June, 2025
SUMMER II 2025	0	9 <sup>th</sup> March, 2025 Application Deadlin 23 <sup>rd</sup> June, 2025	11 <sup>th</sup> May, 2025 e	2	<b>Cohort Timing</b> 14 <sup>th</sup> July, 2025

Apply: https://airtable.com/appK9HemdsQBzVefU/shrNoOieWVQDjjDGQ



## To learn more or schedule a private info session, please reach out to our Head of Partnerships at maya.novak-herzog@lumiere.education

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