

Arya Chakrabarti

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Education

Clear Springs High School

League City, TX

High School Foundation with Distinguished Level of Achievement Candidate w/ STEM endorsement

SAT- 1580: M: 800 V: 780

ACT - 36: M: 36, R: 36, E: 35, S: 36

Weighted GPA: 5.904 (5.0 Scale), Rank: 1/635

- **Activities:** Academic Decathlon (Captain), Math UiL (Co-Captain), Science UiL (Co-Captain), Computer Science UiL (Co-Captain), Experimental Science Club (Co-President), Model United Nations (VP), Student Council (Treasurer), Asian Diversity Club (President), VeX Robotics, Skills USA, Debate, HOSA
- **Honor Societies:** National Honors Society, Mu Alpha Theta (Math National Honors Society) (President), Science National Honors Society
- **Advanced Coursework with AP Score:** AP Calculus BC (5), AP Statistics (5), AP Physics C: Mechanics (5), AP Physics C: Electricity and Magnetism (5), AP Physics 1 (5), AP Biology (5), AP Chemistry (5), AP Computer Science Principles (5), AP Computer Science A (5), AP English Language and Composition (5), AP Human Geography (5), AP Art History (5), AP World History (5), AP United States History (5), AA Anatomy and Physiology (n/a)

Leadership & Activities

Academic Decathlon

10 hr/week, 42 weeks/year

Captain (11, 12), Competing Member (10)

August 2022- Present

- Organized my school's Academic Decathlon team's preparation for district, regional, and state competitions.
- Led rallying efforts both in and out of class and planned group study sessions. Through this preparation, we were able to achieve first in our region.
- Mentored new members on how to excel
- Participated as a competing member in the Honors division and won a total of 36 medals/ribbons, most importantly second in math at the state conference, first in math and second overall score at the regional conference.

Math / Science / Computer Science Team

3 hr/week, 36 weeks/year

Co-Captain (10, 11, 12), Competing Member (9)

August 2021 - Present

- Increased participation in both Math and Science teams 3 fold as co-captain through outreach and recruitment
- Led weekly team meetings with my co-captain to teach and review relevant concepts and administer practice tests.
- Participated as a competing member and won a total of 5 medals, most importantly second computer science team programming and overall

Experimental Science

2 hr/week, 36 weeks/year

Co-President (12) Founder (11)

August 2023 - Present

- Led bi-weekly meetings to investigate physical phenomena. My favorite so far was electroplating pennies and creating a cloud chamber
- Created an inclusive and approachable environment to explore science without the academic pressure of traditional education
- Emphasized collaboration and equity in the lab space

Model United Nations

2 hr/week, 24 weeks/year

Vice-President (12), Treasurer (11), Participating Delegate (9, 10)

August 2021 - Present

- Led a chapter of 40 people to be prepared for the conference. This includes leading bi-weekly meetings to communicate general information, as well as more frequent writing workshops.
- Ensured everyone in our chapter had their position paper and supplemental cases written to give them evidence during the conference
- Organized all of our fundraisers and pricing schemes, allowing us to provide chapter-wide financial aid for conference fees as well as providing snacks to keep meetings engaging
- Participated as a competing delegate, and won most importantly "Outstanding Delegate" award at the 49th Houston-Area Model UN conference

VeX Robotics

3 hr/week, 36 weeks/year

Member (10, 11, 12)

August 2022 - Present

- Designed, built, and coded our robot collaboratively
- Assisted with the setup for state competitions
- Currently spearheading the transition from block coding to C++
- Mentored new members on how to effectively program and build the robot
- Supported a collaborative environment where every voice was heard
- Thoroughly documented the construction of the robot through a shared notebook

Student Council

2 hr/week, 36 weeks/year

Executive Board Treasurer (10, 11)

August 2022 - Present

- Organized school-wide fundraising opportunities for not only student council but every student organization
- Assisted in organizing and executing school-wide events including pep rallies, carnivals, parades, and homecoming
- Facilitated school preparation for inter-school networking and leadership events

Asian Diversity Club

1 hr/week, 36 weeks/year

Co-President (12), Member (9, 10, 11)

August 2021 - Present

- Provided a "home base" for students identifying as asian in a predominantly white school
- Organized bi-weekly meetings involving investigating a particular culture within Asia or issue surrounding being an Asian American
- Emphasized discussion
- Engaged 60+ unique students to foster an inclusive campus

Skills USA

0.5 hr/week, 36 weeks/year

Competing Member (11)

August 2023 - Present

- Competed in the Engineering Math event, consistently scoring first
- Active member in school chapter and assisted in administering bi-monthly meetings

Debate

5 hr/week, 36 weeks/year

Member (11, 12)

August 2023 - Present

- Researched rotating monthly topics in a team environment
- Collaborated in writing extensive case and block files
- Mentored novice debaters in how to incorporate theory and kritiks
- Analyzed current topics to provide potential strategies to novice debaters
- Allocated tasks between multiple teams for more efficient team preparation

HOSA (Health Occupations Students of America)

0.5 hr/week, 36 weeks/year

Member (11, 12)

August 2023 - Present

- Established the Medical Mathematics program at our school
- Competed in the Region competition

DECA

0.5 hr/week, 36 weeks/year

Member (11, 12)

August 2023 - Present

- Compete in the Financial Services Team Decision Making event
- Learn industry-standard financial terminology and processes
- Collaborate with a partner to perform role-play scenarios where we solve real-world financial problems using learned skills

Family Responsibility

14 hr/week, 52 weeks/year

August 2018 - Present

- Took care of my currently 5-year-old sister after school. This includes taking her from the bus stop to home, cooking light meals (ramen is her favorite), reading or playing with her, and talking with her about her current obsession (currently it is Pokemon)

Independent Study Math and Physics

5 hr/week, 52 weeks/year

- I have taken courses in Linear Algebra, Calculus 3, Discrete Math, and Particle Physics through MIT OpenCourseWare. I have gained a deeper appreciation for the beauty of math as I was introduced to proofs. My critical thinking improved as I learned how to navigate physics in 3 dimensions. Through these courses, I have better understood how the world around me intrinsically operates.

Graphic Design

5 hr/week, 52 weeks/year

January 2019 - May 2023

- Specialize in fleshing out brand identities and creating graphic posters
- Program functional websites incorporating skills in HTML, JavaScript, CSS, and React
- Refresh myself on relevant industry updates
- Collaborate with other designers through joint projects
- Created a color theory course for beginners in an online community

Volunteer Experience

Schoolhouse World

Remote

Tutor

December 2021 - Present

- Led an intensive SAT Mathematics Bootcamp to prepare 10 students for the November 2023 SAT. Following official guidelines
- Created a customized curriculum to accommodate the various mathematical skills of my 10 tutees
- Engaged in both lecture and active learning modes to prepare my students. Utilized technology to allow for a digital, collaborative whiteboard to work through problems
- Administered official practice tests to gauge progress and adapt as needed.

AMC12 at School

In-Person

Co-Tutor

August 2023 - November 2023

- Assisted my lead tutor in running AMC12 preparation sessions
- Created detailed annotations of each bi-weekly session's practice test
- Helped proctor practice assessments
- Assisted students as needed during the correction period following the exam

Mu Alpha Theta

In-Person

Member (9, 10), Treasurer (11), President (12)

August 2022 - Present

- Oversaw school-wide math tutoring initiatives
- Emphasized underclassmen involvement
- Allocated responsibility as president to office
- Mentored current 11th graders officers to ensure sustainability of the program
- Engaged the broader school community to gain an appreciation for math

Apptitutor

Remote

Tutoring Assistant & Tutor

September 2020 - May 2021

- Acted as a tutor to students in K-12 seeking supplemental instruction during the COVID-19 pandemic
- Served primarily students in elementary school but tutored as advanced as pre-calculus
- Created custom lesson plans and problem sets to work through my tutees in our weekly sessions
- Taught new concepts that the student may not have grasped during virtual school
- Worked closely with co-tutors to create comprehensive, non-repetitive lesson plans
- Incorporated a lively style to ensure engagement

Jobs

Private Tutor

August 2023-Present

- Created a long-term learning plan for AP Calculus BC including custom questions and graphics to reinforce topics and practice exams to reinforce skills.
- Assisted both with homework and teaching new concepts
- Adapted with tutee to ensure learning is effective but more importantly enjoyable.
- Regularly employed technology to improve attention and grasp of content

Mathnasium Tutor

September 2024-Present

- Adapted to various learning strategies to ensure effective math communication
- Facilitated students to work through a structured curriculum while ensuring personal growth
- Collaborated with other tutors to create an engaging learning environment
- Provided customized learning plans during private tutoring sessions
- Assisted with exam prep
- Stayed consistent with a given schedule

Summer Activities

Texas Boy's State

University of Texas at Austin

Speaker of the House

June 2024

Texas Boy's State is a week-long program that immerses 1200 high-achieving secondary school students in the processes of state government and leadership. Through simulations of all aspects of government, participants gain first-hand experience in elections and legislation.

- Elected and served as Speaker of the House in the Boy's State Congress
- Presided a 150-member chamber including members from all over Texas
- Facilitated the passing of both House and Senate legislation through opening lines of communication with leadership in the Senate
- Established specialized committees (Health, Education, Government, Taxes, Environment) to facilitate efficient writing of legislation and organizing the order of debate on the floor of said legislation
- Emphasized a fun environment to allow what was 150 17-year-olds to have a memorable experience at Boy's State

Computer Science Academy For All: Machine Learning

University of Texas at Austin

Participant

July 2024

The Academy for All Machine Learning Edition is a week-long summer program at the University of Texas at Austin to introduce students to machine learning. Through lectures, labs, HCI workshops, and seminars, participants gained a holistic idea of what "learning" means to a computer.

- Learned about various machine learning algorithms, including perceptrons (single and multi-class), q-learning, and k-nearest-neighbors
- Utilized peer-programming to approach problems in a group setting
- Completed various projects, including a hand-written-number classifier and a pac-man player
- Prototyped applications in human-computer-integration workshops
- Discussed the human impacts of machine learning in seminars

Honors and Awards

Academic Decathlon Medals

- District:
 - 1st Art
 - 1st Mathematics
 - 1st Science
 - 2nd Economics
 - 3rd Literature
 - 3rd Social Science
- Region:
 - 1st Art
 - 1st Economics
 - 1st Mathematics
 - 2nd Literature
 - 2nd Music
 - 2nd Science
 - 2nd Social Science
 - 2nd Overall Individual
 - 1st Overall Team
- State:
 - 2nd Mathematics

UIL District

- Science
 - 2nd Biology
 - 3rd Overall Individual
- Computer Science
 - 2nd Overall Team
 - 2nd Programming

Skills USA

- 1st in Engineering Mathematics

VeX Robotics

- World Competition Qualifier

Houston Area Model United Nations

- Outstanding Delegate

Texas Boy's State

- House of Representatives
- Speaker of the House of Representatives

4 Year Superintendent's Scholar

- Maintained a 95+ average in all courses