Profile

Personal Information

Name	Adakroy, Reevu
Sex, Birthdate	Male, 10/24/2002

Contact Details

Email, Phone	reevu.adakroy@gmail.com, +1.703-559-2453, Mobile, +1.703-790-1678, Home
Permanent Address	1293 Scotts Run Rd McLean, VA, 22102-2826, USA

Demographics

Military Status	None
Hispanic or Latino/a/x	**No**
Race	**Asian** (India)

Language

English	First Language, Speak, Read, Write, Spoken at Home
Bengali	Speak, Read, Write, Spoken at Home

Geography & Citizenship

Citizenship Status	U.S. Citizen or U.S. National
Birthplace	Boston, Massachusetts, United States of America (18 Years US, 0 Years Non-US)

CA Fee Waiver

Fee Waiver Requested	No

Family

Household

Parents	Married
Home	Both Parents

Parent 1

Mother

Name	Rita Adak
Email, Phone	ritaadak@gmail.com, +1.703-559-2452, Mobile
Address	the same as my home address
Occupation	Other, Government Service, Employed, IT Specialist, NOAA
Education	Graduate school Masters (1998), **Suffolk University, Boston, MA, USA**

Parent 2

Father

Name	Prasenjit Adak
Email, Phone	adak.prasenjit@gmail.com, +1.703-559-2451, Mobile
Address	the same as my home address
Occupation	Other, Government Service, Employed, Enterprise Architect, FDIC
Education	Graduate school Masters (2001), **Northeastern University, Boston, MA, USA**

Siblings

1. Raka Adakroy, Age 15, Sister, Some high/secondary school

Education

Current or Most Recent Secondary School

Thomas Jefferson High School for Science and Technology, Alexandria, VA, USA, Public, CEEB: 470054 (08/2017 - 06/2021)

Other	**Longfellow Middle School, 2000 Westmoreland St, Falls Church, VA, USA, Public** (09/2015 - 06/2017)
	Cooper Middle School, 977 Balls Hill Rd, McLean, VA, USA, Public (09/2014 - 06/2015)
Progression	No change in progression
Graduation Date	06/2021

Colleges & Universities

School	**George Mason University, Fairfax, VA, USA** Dual enrollment with high school (08/2019 - 02/2021)

Grades

Rank	na / 436
GPA	4.382 / 4 , Weighted

Current or Most Recent Year Courses

First Semester

AP English Language and Composition - (AP)

AP US Government - (AP)

Geosystems - (HON)

Automation/Robotics Research - (HON)

Complex Analysis - (DUAL)

Artificial Intelligence 1 - (AP)

Automation/Robotics Systems - (HON)

Second Semester

AP English Language and Composition - (AP)

AP US Government - (AP)

Geosystems - (HON)

Automation/Robotics Research - (HON)

Math Techniques - (AP)

Artificial Intelligence 2 - (AP)

Automation/Robotics Micro Systems - (HON)

Honors

Two-time AIME Qualifier through both the AMC10 and AMC12; Chosen to represent school in ARML, NYCIML	School, State/Regional, National	10, 11
USA Computing Olympiad (USACO) Bronze Perfect Scorer	National	11
Represented school in US National Chem Olympiad Local as TJHSST top 20 after multi-stage elimination	School, State/Regional	10
FIRST Tech Challenge Robotics World Championship Judge's Award and Promote Award; VA State Champion	State/Regional, National, International	10
Nominated & recognized as NBC4 News Harris' Heroes for service in Youth COVID-19 Relief Organization	State/Regional	11

Future Plans

Engineer, Doctorate

Testing

There are no test scores to report.

Activities

Community Service (Volunteer)

11

School, Break

40 hr/wk, 26 wk/yr

Continue

Founder and Leader, Youth COVID-19 Relief Organization (YCRO)

Launched 120-member organization to determine and address PPE needs in 110 hospitals; delivered 8747 3D-printed/sewn items; recognized on NBC4 TV News

Computer/Technology

11

School, Break

8 hr/wk, 10 wk/yr

Continue

Project Lead and Web Developer, Youth COVID-19 Relief Organization Website (https://www.projectycro.org)

Established requirements; self-taught AWS cloud, NodeJS, ReactJS & Heroku to design & build intuitive mobile-friendly website with dynamic charts/maps

Robotics

10, 11, 12

School

17 hr/wk, 32 wk/yr

Continue

Design Head, Drive Team Coach and Founding Member, TJHSST FIRST Tech Challenge (FTC) Robotics Team

Led robot design & build using CAD, laser cutting, 3D-printing; won two 1st place awards at World Championships; VA State, VA & MD Regionals Champions

Robotics

10, 11, 12

School, Break, Year

3 hr/wk, 30 wk/yr

Continue

Outreach Member and Instructor, Robotics Outreach

Mentored 8 robotics teams including 1 in Indonesia; volunteered at Lockheed Martin workshops; coached 30 Title-1 students; TA'd intl. 200-student camp

Other Club/Activity

9, 10, 11, 12

School, Break, Year

3 hr/wk, 40 wk/yr

Continue

Trainee, Martial Arts

Trained in martial arts for 6 years; earned Brown belt in Kung Fu; won Bronze at regional Kung Fu tournament; Blue belt in Taekwondo

Science/Math

9, 10, 11, 12

School, Break

10 hr/wk, 30 wk/yr

Continue

Member, TJHSST Varsity Math Team

Adept in advanced algebra and geometry, combinatorics, number theory, Mathematica; two-time AIME qualifier; represented school in various competitions

Community Service (Volunteer)

11, 12

Break

6 hr/wk, 12 wk/yr

Continue

Organizer and Instructor, Girls Who Math

Strived to encourage youth and promote competition math, matching tutors with students and teaching AMC 10/12 class to 22 middle schoolers

Music: Instrumental

9, 10, 11, 12

Year

4 hr/wk, 25 wk/yr

Continue

Violinist and Founder of Trio, Violin Trio

Professional coaching for 8+ years; performed solo recitals and in school orchestra. Founded trio to perform at senior living home during holidays

Science/Math

9, 10, 11, 12

School

4 hr/wk, 30 wk/yr

Continue

Member and Lecturer, TJHSST Physics Team

Represented school in F=ma competition and Physics Bowl; presented lectures on superconductivity, fluid dynamics, and thermodynamics; tutored students

Science/Math

10, 11, 12

School

2 hr/wk, 20 wk/yr

Continue

Member and Lecturer, TJHSST Chemistry Team

Competed for school in USNCO Local; lectured on inductively coupled plasma mass spectrometry, organic chemistry; tutored students on AP Chemistry

Writing

Personal Essay

Discuss an accomplishment, event, or realization that sparked a period of personal growth and a new understanding of yourself or others.

There was so much innovation and brilliance everywhere. Booths spanned the 2-million-square-foot Detroit Cobo Center, showcasing robots from all over the globe. Double extensions, rotating elevator systems, and inexhaustible inspiration declared that the 14th FIRST Tech Challenge (FTC) Robotics World Championship was underway.

Seeing the competition, our robot too felt the pressure to perform. The matte black masterpiece glided through the playing field with ease, uniting the room in amazement. And with the world's eyes on its every move, LEDs shimmering through crystalline acrylic, it paused, spun 40 degrees to the right, and drove swiftly off the field, taking our cherished aspirations with it. "PENALTY!" was needless to say.

Hours later at the award ceremony, my teammates were already consoling each other. "...at least we had fun, right?" The announcer's voice boomed:

"Next…the Judge's Award…and the winner…TEAM 14607, ROBOT UPRISING."

omigosh. My legs were moving before my brain knew what happened. My team ran to the stage, high-fiving judges, thanking referees and our parents and our coach and the world for making this possible. I was so ready to do it all over again.

But then, COVID-19 happened. Our second World Championship experience never materialized. School closed. Everything was cancelled. It felt like the world was paused and someone lost the remote.

There isn't anything I can do, anyway.

Powerlessness became a common theme. Stories of PPE scarcity permeated the news:

"Doctors and nurses are desperately pleading for supplies to protect against the deadly virus…"

It was heartbreaking.

As the report was coming to an end, I caught a glimpse of a doctor, standing in front of a not-so-medical device. A 3D-printer…printing masks.

Wait. There is something I can do.

I started researching, coordinating, and reaching out. In FTC, I designed and 3D-printed robot parts all the time. I had experience building a team, always striving to add people with compatibility, people who were driven and competitive. Now, I was recruiting people to save lives.

Within days, I had a team of 120 high-schoolers, insight from several research papers, and the project management skills of a diligent dill pickle. The Youth COVID-19 Relief Organization was born.

Testing no longer meant running code at home and hoping my toes didn't get run over by a 2-foot-tall robot. Testing meant working side-by-side with healthcare professionals, assessing prototypes for fit, comfort, and effectiveness. We couldn't afford even one "oops, my bad".

In the coming months, entire days vanished. By the time health experts were consulted, data lawyers were called back, face-shields were 3D-printed and delivered, and all eight subteams' action plans were refined, my *Huckleberry Finn* assignment was still waiting, with as little regard for my sleep schedule as it had in the morning.

But for each moment of stress, there was another of wonder: medical professionals sharing their designs with us, ten branches of libraries dedicating their 3D-printers to our team. My concept of what is possible was blown away. I will always remember Mr. Pendergrass's cheerfulness and Dr. Jolissaint's elbow bumps—experts in their fields treating us, high-schoolers, with respect and kindness. They still inspire me today.

And with every passing day, our group pushed further from a bunch of naive high-schoolers into an organization with rapid communication, structured decision making, and an agenda.

In FTC, we worked incredibly hard, but always to *win*, to be the *best*, innovating, designing and optimizing to complete the task at hand. But it was that summer, quarantined at home, that I learned what robotics is truly capable of. During my last drop-off at Suburban Hospital, a nurse stopped me as I was pulling away.

"You may have just saved some lives."

Robotics is no longer a pastime to me, or some fun activity to drop back into. Robotics is a skill. It's creativity, grit, innovation, and impact. And it is that insight that continues to drive me.

There will always *be something I can do.*

Additional Information

Hi. Thanks for joining us in the additional info section. Tonight we'll be reviewing in-depth some of the accomplishments, additional activities, honors, fun stuff, and technical skills to better know Mr. Reevu Adakroy. We'll get started shortly.

Additional Accomplishments in Youth COVID-19 Relief Organization (YCRO): Founder and Leader (11th grade)

Quick Recap: In mid-March, amidst the coronavirus pandemic, I took the initiative to form a group of friends to make the most of human, technological and mental resources already at our disposal and find and execute ways to help out hospitals struggling with the shortage of personal protective equipment (https://tinyurl.com/y9yql8g7). The project expanded into eight subteams, each progressing simultaneously with distinct agendas, but united in one common goal. This required me to communicate my vision, convince my team members to believe in it, and inspire them to act in a cohesive manner.

* To effectively lead such a large group, I contacted a professional project manager and worked with her for twelve weeks, learning how to organize and coordinate.

* My team gathered and categorized the needs of healthcare facilities in DC-MD-VA; established close partnerships with multiple organizations of medical professionals; designed and tested several 3D-printable masks with George Washington Hospital doctors; and manufactured hundreds of items based on designs certified by Johns Hopkins, NIH and Georgia Tech.

* We designed, developed, and launched a website to set up a network of hospitals and several organizations including *Let's Breathe* and *MasksforDocs,* coordinate with Fairfax County Public Library to manufacture items, document research and maker guides, and publish newsletters.

Website: https://www.projectycro.org/

Repository: https://github.com/fighting-covid/website

* I also joined *MasksforDocs* and began coordinating deliveries for the Northern Virginia Chapter using YCRO's database.

* YCRO has been recognized as an official chapter of *Open Source Medical Supplies*, a global network of medical and manufacturing professionals (search "McLean" at https://tinyurl.com/y8qq912s).

* Later on, I worked with Ms. Abrar Omeish, Fairfax County Public Schools At-Large Board member, conducting livestreams on ways to help out hospitals from home.

Over a period of 6 months, one hundred and ten hospitals were contacted. Five newsletters were published. And eight-thousand seven-hundred forty-seven pieces of PPE were sent to frontline healthcare workers.

Apart from being recognized as *Harris' Heroes*, we appeared in several articles, some of which are linked below:

https://tinyurl.com/ych2fco6

https://tinyurl.com/yd4hwgrb

https://tinyurl.com/yaw2salh

https://tinyurl.com/y9eofhmj

Additional Activities:

Shadowed George Mason University Professor of Nanotechnology Dr. Salvador-Morales (Grade 10, Break, 40 hours/week, 2 weeks/year): Investigated using poly(lactic-*co*-glycolic acid) to treat breast cancer; learned about basic drug delivery and biotechnological research.

Machine Learning Club: Member (Grade 10, School, 3 hours/week, 20 weeks/year): Developed neural network to recognize handwritten numbers with 98% accuracy.

CyberPatriot: Team Captain (Grade 10, Break, 10 hours/week, 5 weeks/year): Set up action plan and conducted weekly meetings. Coordinated team's learning about Linux and Windows OS.

TJHSST Peer Tutor (Grades 10-12, School, 3 hours/week, 15 weeks/year): Tutored students in math, chemistry, physics, and computer science.

TJHSST Wrestling Team: Member (Grade 9, School, 10 hours/week, 8 weeks/year): Member of Junior Varsity team.

Additional Honors:

National AP Scholar, AP Scholar with Distinction (Grade 11)

2021 National Merit Scholarship Semi-Finalist (Grade 11)

Represented school in PACE National Quiz Bowl (Grade 10)

Some fun stuff I enjoy:

Squash: Regularly played squash at community racquet club.

Chess: US-rated (1375 official, 1701 Lichess unofficial) player.

Rubik's Cube: Can solve several variations of Rubik's cube, including 2x2, 3x3, 4x4, Skewb, and Megaminx, with a personal record of 10 seconds for the 3x3.

Baking: Love making desserts for my friends and family, from blackberry cheesecakes to almond cream-filled macarons.

Technical Skills:

*Robot design and construction

*Computer-Aided Design (CAD) using Fusion 360, AutoCAD, Onshape

*Arduino, Raspberry Pi

*3D-printing, Laser cutting

*Algorithmic programming in Java and Python

*Configuration management using Git and Github

*AWS cloud

*Web technologies including ReactJS, NodeJS, Heroku

*Organic chemistry lab procedures: NMR, IR Spectroscopy, Mass Spectrometry

*Machine Learning (neural networks, Markov chains)

*Quantitative and Problem-Solving Skills

Education Progression

Education progression details

No change in progression

Required Explanation

Secondary school change

These are middle schools in which I took high school credit courses listed in my transcript.

Disciplinary Information

Have you ever been found responsible for a disciplinary violation at any educational institution you have attended from the 9th grade (or the international equivalent) forward, whether related to academic misconduct or behavioral misconduct, that resulted in a disciplinary action?

No

Harvard University Questions

General

Preferred start term	Fall 2021
Admission plan	Regular Decision
Preferred residence	On Campus
Financial aid	Yes
Do you intend to submit supplementary materials to be considered as part of the admission process to Harvard?	No
Consider testing?	I have submitted or will submit SAT or ACT scores, and would like them to be considered as part of my application

Academics

What academic program at Harvard interests you?	Engineering
Specific field(s) of study	Biomedical Engineering, Computer Science, Electrical Engineering
On a scale of 1 (absolutely certain) to 5 (very likely to change), how definite do you consider your academic plans to be?	2
On a scale of 1 (absolutely certain) to 5 (very likely to change), how definite do you consider your vocational plans to be?	3

On a scale of 1 (absolutely certain) to 5 (very likely to change), how definite are your extracurricular and/or athletic interests?	2
Are you applying for the dual degree program with the New England Conservatory?	No
Are you applying for the dual degree program with Berklee College of Music?	No
Online Coursework	No

Additional Intellectual Experiences

I was fascinated, watching strips of metal spontaneously orient, rotating and curving like hibernating bears waking up for spring. When removed from the warm water bath, they assumed their original shape: paperclips, recognizable and perfect. I came across the material in sophomore year, in a video describing NASA's ambitious intent to "Reinvent the Moon Rover" using nitinol, the magical alloy I'd seen transforming and the newest addition to my 11-page project ideas.

Months passed as ideas developed—the compilation depicted a heat engine, converting temperature difference into electricity. I imagined planes flying without refueling, rockets launching with ease, capturing power from *air*. Global warming would become a tool, a power source!

Blinded by excitement, I missed what was right before my eyes. Carnot's Theorem doomed my design from the start. I was crushed…for a week, until I started work on a custom drawing machine that would surely revolutionize the human hand.

Activities

Activity 1	Pre-Professional Groups
Activity 2	Community Service
Activity 3	Squash
Intended level of participation (sports)	Club/Intramural/Recreational
Activity 4	Martial Arts
Intended level of participation (sports)	Club/Intramural/Recreational

Activity 5	Orchestra

EC Essay

I found my passion for robotics playing around with a circuit kit, an opportunity I realized the motivated, brilliant students from Weyanoke Elementary, a Title 1 school next to my high school, may never get. So, my robotics team and I prepared kits for the students to develop interest in this field. I spent my Saturdays teaching design principles, build techniques, and programming practices. Grins spread on their faces, looking at the treasure trove of parts we had picked out for them. They made line-following bots, maze-solving machines, and even designed a Coke can that transforms into a car with 4 wheels. Whenever I asked a question, hands shot up around the room. In their bright eyes and unwavering resolve, I was looking at my past self. It was when their designs and robots became advanced, that I realized they were also the future.

Contacts

Have you previously applied to Harvard?	No
How have you learned about Harvard? List in order of influence	Website
Additional contact	College Counselor / Teacher
Additional contact	Email
Additional contact	Social Media

Other Information

Please list the cities, states and countries where you have lived, with years of residence. Please list each location on a separate line with dates following (e.g., City, State, Country, mm/yyyy - mm/yyyy).	McLean, VA, USA, 08/2010 till present
Please list additional location and date if applicable.	Concord, NC, USA, 05/2005-07/2010
Please list additional location and date if applicable.	Natick, MA, USA, 10/2002-04/2005

Have you ever been convicted of, or pled guilty or no contest to, any felony or misdemeanor?	No

Affirmations

By submitting this application, I affirm my understanding of and agreement to the statements found here: http://www.commonapp.org/affirmations.