



Social Justice Geared towards Foster Youth

Nomination details

Your Name *(Please include First and Last name)*

Vishagan Ratnaswamy

Your Preferred Email Address

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Your Preferred Phone Number

+16266164164

Your Caltech Degree(s) or Affiliations

PHD in Aeronautics, Masters in Space Engineering

I am a Caltech alumnus / alumna who has received my BS, terminal masters, or PhD from Caltech within the past ten years. I am not currently enrolled as a student at Caltech and will not be at any time during the proposed career exploration period.

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Current Employment Company/Organization

IQLAND Innovations

Current Job Title

Fractional Chief Technical Officer and Visiting Researcher

Describe your current job and work related responsibilities.

My job responsibilities as a Fractional CTO at IQLAND Innovations was primarily centered around research and development of an AI system that is geared towards helping small towns tackle urban challenges such as their zoning code as well as streamlining their infrastructure. This role is primarily focused on applying methods in AI as well as geo-spatial data modeling to consolidate these towns that are primarily black and do not have the infrastructure to drive in more residents. Additionally, I am a visiting researcher at New Jersey Institute of Technology where I work in the Granular Science Laboratory. In this capacity, I conduct research into computational models directed at simulation soft matter as well as present at conferences. My scope in both as a fractional CTO and visiting researcher is to conduct scientific research as well as collaborating with the contractors of IQLAND Innovations to develop engineering aspects of the AI platform. Now that the AI platform is finished, I now just have meetings and check in here and there while the CEO is meeting with cities and selling it to them. My position as a visiting research scientist has always been very flexible as I do research but it is at my own pace and it is also how I am able to balance it with my other commitments, especially being a fractional CTO.

Describe the new career path you are interested in exploring.

A new career path that I am very much interested in exploring lies at the forefront of educational and professional opportunities for foster youth in urban cities--specifically in San Francisco CA, the city that I live in.. This path is aimed at working with Foster youth services and helping youth both navigate their educational opportunities post-high school but also what is available to them after they turn 21. This path is important to me because while there is support that is available through foster youth services such both program-wise such as CASA and ILSP which give resources such as a mentor and services such as resume writing and tutoring. However, these services are not sufficient for foster youth (primarily that are primarily of various ethnic backgrounds as well as part of the LGBTQIQA+) communities. I know this personally because I am working with foster youth as a tutor since September 2023 to currently across middle and high school. This work has not just been recent, but I had been a volunteer at School on Wheels when I was a graduate student at Caltech, that included me being a volunteer at Hillside Homes for boys that were in middle and high school. My primary focus will be to bring these services to children that are in foster youth services that may or may not be reuniting with their families but also with those that are marginalized, especially trans youths.

Project Start Date: 04/15/2025

Chang Prize recipients are expected to begin their projects by Spring 2025

Project End Date: 04/15/2026

Chang Prize recipients are expected to complete their projects within 6-12 months

Summarize your proposed project.

My proposed project involves working with social workers San Francisco Unified School District (SFUSD) and SF foster youth services. This project involves working both with addressing the needs of the students within the educational environment, which means amassing volunteers that work the SF foster youth services interns that are at each school (middle and high school) and facilitating tutor programs with them. This will first be done through myself as a tutor through both individual and group sessions. However, I will work with the interns with engaging the community to have retired professionals work with students throughout the day. The second part of the project works with students that are transitioning to college as there is not necessarily a plan if they want to move away from SF and go to schools further away. I intend to work with SF foster youth services, the social workers of the foster youth as well as the SF CASA (court appointed special advocates) to create a way so that foster care youth that are attending college or trade school both in SF or outside of SF have the proper support whether this is virtual or through local organizations. The last part of the project is making sure to leverage my network to at foster collaboration with the tech community, that is internships through startups as well as research projects where foster youth can work on and present their projects at conferences that will build their confidence.

Project Description, Goals, and Objectives:

Provide a detailed explanation (including clear goals and objectives) of what you intend to accomplish with your project.

The goals that I intend to accomplish in this project are in multiple phases. The first phase involves engaging in the middle and high school level of identifying students in foster care that are falling behind and addressing those needs. To do that, I will work with SF foster youth services and their interns as well as SFUSD to come up with a comprehensive plan to address which students have fallen behind and those who are at risk of dropping out. As someone who has worked and is volunteering at SFUSD with foster youth, I am able to reach out to social workers in middle and high school at SFUSD to see what those needs are and immediately get to addressing where the students are falling behind. The next step is to engage the community and that means working with the Wellness Center and social workers to recruit others (students in the local colleges as well as retired professionals) to come in and work with foster care youth so that they are caught up. With this, we can establish a cadence where foster youth can build long-standing relationship with adults that they can depend on that can go beyond the classroom and into mentor-ship. The next phase would be to have workshops led by the foster youth interns that allows them to share knowledge about how to better serve the youth that they are serving. This is important as it can go a long way in distilling the information that unfortunately is not readily available to share among themselves as they are busy and inundated with serving youth across the city. It has been shared with me with a foster youth intern that I

worked with while tutoring students at multiple schools during the 2023-2024 school year that those workshops allows for best practices to allow for a compilation of information that spreads across working with students across multiple ethnicities as well as gender identities as those issues do vary. Furthermore, in this phase I myself will be working with SF foster youth services and SFUSD on applying for grants within the states to service schools where they can better provide adequate educational and after school services for foster care students. Unfortunately, SFUSD has undergone many budget cuts where school programs have been removed, so it is imperative that there are alternative means such as grants that can be endowed upon schools within the district that can serve its most vulnerable students. In this phase, I will be focused on engaging the school administration on what programs that can best serve foster youth within their schools and then write grants so that they can implement such programs. Furthermore, within this phase, I will work with grassroots organizations such as Lavender Phoenix that works on behalf of non-binary and transgender people so that they can work with foster-care students that identify as non-binary and transgender in order to provide them with the resources so that they can thrive. In the last phase of this project, I will set up programs, so that foster care students can engage in both research in an academic setting through myself and the local universities in the area such as USF, SFSU and NJIT so that they can gain experience in an academic setting if they choose to attend universities. Furthermore, I will leverage my network so that foster care students can have internships at startups in the SF tech scene so that they can be exposed to what working in this space is like as most do not have the confidence nor feel like they belong in those spaces.

Intended Outcomes and Societal Impact:

Describe your intended outcomes and how your project has the potential to make a meaningful and positive impact on society.

My intended outcomes of this project is to ultimately empower foster youth across different ethnicities and gender identities so that they feel like they belong in spaces that they did not think they would fit in. Societally, foster youth have been marginalized as they have had to deal with issues of abandonment and homelessness. This has led to a very low graduation rate from high school and an even lower enrollment rate of college. My goal of this project is to make sure that they have the resources at their disposal that will allow them to succeed, but also empower them to know that they belong in places higher learning. Furthermore, it is my goal of engaging the community, especially the academic and tech community to care and provide an environment where foster youth can thrive.

New Career Experiences & Professional Development:

What will you learn by embarking on this project? What new career experiences do you expect to have? Which skills will you develop or improve by completing this project?

What I will learn by embarking on this project are where the deficiencies are in the infrastructure that serve foster youth. This knowledge will be gathered both at the city level with the foster youth services as well as at the educational level with the school administrators will allow me to better work with schools and foster youth services as they do not have the resources to address foster students at the granular level. Furthermore, the additional skills I want to develop would be creating infrastructure that integrates both on the macro-level with administrators in foster youth services as well as on the granular level within the school. What I have found volunteering at middle and high schools in SFUSD is that while those policies are there for foster youth, they are not readily accessible nor do the foster students know of them till it is too late. Therefore, understanding why these types of infrastructures that are in place fail to make their way to foster youth and how this can be remedied at a granular level would be the key skill that I would want to develop out of this project. An important career experience I want to have for this project would be to work with the city in what they need to better address the issues that foster youth face both in their day to day lives as well as provide a better framework that enables foster youth to pursue higher education.

Timeline:

Provide a detailed timeline of the project (start to finish) using this table. Please include your goals and objectives to meet those goals as well as the anticipated start and completion dates.
Chang Prize recipients are expected to begin their projects by Spring 2025 and complete the project within 6-12 months.

GOAL	OBJECTIVE	START DATE	COMPLETION DATE
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1	WORK WITH FOSTER YOUTH SERVICES TO EXAMINE INFRASTRUCTURE FOR FOSTER YOUTH	ENABLE ACADEMIC SUCCESS OF FOSTER YOUTH	04/15/2025	08/2025
2	ENGAGE SOCIAL WORKERS AND WELLNESS CENTERS IN SFUSD	WORK WITH SOCIAL WORKERS TO SEE WHAT IS NEEDED IN A HOLISTIC SENSE TO SEE WHAT THEIR FOSTER YOUTHS NEED TO HELP THEM IN AND OUTSIDE SCHOOL	08/2025	04/2026
3	WORK WITH FOSTER YOUTH INTERNS AT SFUSD	WORK WITH FOSTER YOUTH INTERN THAT SERVES THE STUDENTS TO SEE WHAT ARE THE EDUCATIONAL NEEDS THAT ARE LACKING SO THAT THE FOSTER STUDENTS CAN BE CAUGHT UP TO THEIR PEERS	08/2025	04/2026
4	ENGAGE GRASSROOTS ORGANIZATIONS SUCH AS LAVENDER PHOENIX	WORK WITH GRASSROOTS ORGANIZATIONS TO DEVELOP PROGRAMS THAT ADDRESS FOSTER YOUTH ISSUES, ESPECIALLY THOSE IN THE LGBTQ COMMUNITY	08/2025	01/2026
5	WORK WITH SFSU, USF AND NJIT TO PROVIDE MENTORSHIP AND PROJECTS THAT FOSTER YOUTH CAN BE INVOLVED IN	TO PROVIDE OPPORTUNITIES FOR FOSTER YOUTH TO WORK ON PROJECTS SO THAT THE STUDENTS DEVELOP CONFIDENCE AS WELL AS OWNERSHIP OVER A PROJECT	01/08/2026	04/2026
6	ENGAGE THE PROFESSIONALS	PROVIDE OPPORTUNITIES	01/08/2026	04/2026

	WITHIN THE TECH COMMUNITY IN SF	SUCH AS INTERNSHIPS AND MENTORSHIP FOR FOSTER YOUTH		
7	GRANT WRITING FOR FUNDING OF FOSTER YOUTH PROGRAMS	WRITE GRANTS BASED ON THE INFRASTRUCTURE AND PROGRAMS THAT NEED TO BE FUNDED TO SERVE FOSTER YOUTH	08/2025	01/2026
8	WORK WITH SF CASA AND ILSP	WORK WITH ORANIZATIONS WITH SF TO BUILD PROGRAMS THAT CAN SERVE THE INDIVIDUAL NEEDS OF FOSTER YOUTH BOTH BEFORE AND AFTER THEY TURN 18	06/15/2025	04/2026

Total Project Costs (US \$): 65000

Provide the total estimated costs for the project. *Please note that the maximum amount you can request is \$65,000.*

Statement of Need:

How will the Chang Prize funds allow you to accomplish what you would otherwise not have been able to do on your own?

The Chang Prize will allow me to accomplish this project that otherwise I could not have done on my own because I will be able to use those funds to deliberately work on this project and take a break from my work from before. These funds would be used to help understand the deficiencies in the infrastructures that serve foster youth in addition to allowing myself to work with the interns that directly serve foster youth within SFUSD. The funds from the Chang Prize would allow me to go beyond my volunteer work as I can now devote time to work with the key administrators in the schools such as counselors and the wellness staff at the granular level in order to address the students needs that are often forgotten. Furthermore, working with grassroots organizations within SF that are focused on bringing equity to those that are marginalized will allow me to better help foster youth as well as include the community within SF that are wanting to help foster youth. Furthermore, working with grassroots organizations within SF will allow me to use my experience in which I have worked on grants in an scientific setting and apply it to getting funding to help build infrastructure and programs to serve foster youth. Taking this break to focus on this project will allow me to now devote time to work on grant writing to gain funding so that foster youth can better be served.

Detailed Budget:

How do you plan to spend the prize money? Use the budget template below. Include as many categories as necessary (e.g., salary, supplies, travel expenses, etc) by clicking on "Add Row."

CATEGORY	ITEM DESCRIPTION	AMOUNT
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1	Salary	Salary for myself as I embark on this project	30,000.00
2	SF Foster Youth Interns	This budget will be allocated to the interns from SF Foster youth services that will	10,000.00
3	Grassroots Engagement	Work with Grassroots Organizations to create programs that address needs for foster youth that would not be available from current programs	10,000.00
4	SFUSD	Develop more comprehensive programs to address educational needs of foster youth in which counselors cannot address on their own.	10,000.00
5	Internship and Mentorship Programs	This program will be developed to provide opportunities with foster youth so that they can work with local universities as well as the tech community to gain exposure into these avenues as possible careers as well as develop mentorship relationships beyond the school setting.	5,000.00

You may attach your additional materials, supporting documents, budgets, or information relevant to your proposed project. Please use the following naming convention for any attachments you may submit: First Name_Last Name_Attachment Type (for example: Frank_Capra_Budget)

Log in to caltechalumni.awardsplatform.com to see complete nomination attachments.