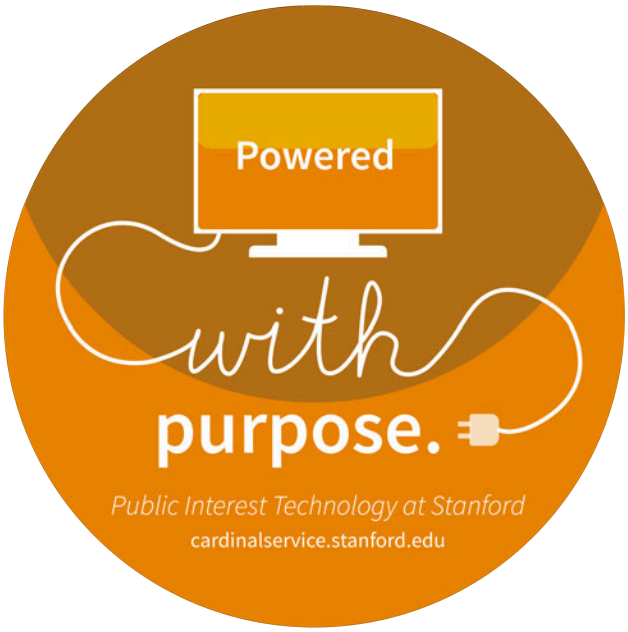


**Public Interest Technology University Network (PIT-UN) Challenge Grant**

**Stanford Cardinal Service PIT Career Pipeline Project**

**2019 Challenge Grant Report**

**February 2021**

## 1. Summary of key results

We are pleased to provide a summary of the results from our Year 1 Challenge Grant. They include:

- More than doubling the number of PIT summer Cardinal Quarter internships from six to 16 and recruiting and selecting students
- Recruiting and selecting students for nine, year-long, postgraduate public service Community Impact Fellowship placements in PIT organizations[1] for 2020-2021, and increasing to 12 prearranged PIT placements for 2021-2022
- Integrating PIT projects into the Management Science and Engineering capstone course for the 2020-21 academic year
- Integrating PIT organizations into Stanford's virtual fall career fair
- Identifying and promoting courses that prepare students for summer internships, capstone projects, and jobs
- Sponsoring/cosponsoring two winter quarter courses (*Public Interest Tech: Case Studies* and *AI For Good Seminar Series*) featuring PIT practitioners
- Adding PIT opportunities into our Cardinal Careers newsletter; creating a dedicated weekly PIT jobs newsletter, and providing PIT job listings to Stanford's career center and computer science and engineering student services managers
- Establishing a partnership with Stanford's McCoy Center for Ethics in Society to offer workshops for students on ethics in technology
- Creating a brand identity for PIT as a critical element of Cardinal Service
- Creating a short video on PIT careers and job searches that will be incorporated into BEAM/Stanford Career Education's engineering careers toolkit
- Hosting a convening with Stanford faculty to discuss ways to increase student engagement in PIT and foster synergies among the various PIT programs and initiatives on campus
- Hosting a symposium for students chaired by Computer Science Professor Mehran Sahami and featuring panelists Kevin Barenblat (co-founder and President, Fast Forward), Dan Getelman (co-founder and CTO, Remix), and Amanda Renteria (CEO, Code for America), followed by a PIT student organization activities fair, with 110 students attending
- Working with the McCoy Center; Ethics, Society, and Technology Hub; and Center for Comparative Studies in Race and Ethnicity to convene the major PIT-related student

[1]Fellowships were offered at Code For America, City Innovate, JustFix, Replate, TalkingPoints, Turnout 2020 as well as SIRUM, the San Jose Mayor's Office of Civic Innovation, and Fifty Years. Code for America, JustFix and the Mayor's office ended up withdrawing due to COVID restrictions.

organizations to establish a PIT Student Leadership Committee, which planned the above symposium and is currently developing a *Guide to Public Interest Technology at Stanford*

**2. Background and Problem Definition**

Our primary objective has been to elevate Public Interest Technology (PIT) careers by expanding real-world experiences that enable Stanford students to imagine careers focused on using technology to benefit policy and forge solutions to pressing social and environmental issues. Our overarching goal is to ensure that interested students have options throughout their time at Stanford, feel prepared to engage in PIT work, and have meaningful opportunities to pursue their chosen path after graduation (Figure 1).

In setting this objective, we acknowledged that many Stanford students, especially those in the social sciences and other "non-tech" majors, do not see a clear pathway for themselves in this space. A second problem is the pull of lucrative opportunities and careers in technology that do not necessarily focus on the public interest. Our goal was to work closely with other units within Stanford, including BEAM/Stanford Career Education and the McCoy Center for Ethics in Society, to establish a PIT Community of Practice as part of our work, and to elevate and establish a culture at Stanford in which careers focused on public interest are valued.

Stanford's student population is diverse in many ways; the Class of 2022 has students from all 50 states and 66 non-U.S. countries, and over 15 percent of students are the first in their family to go to college. This rich diversity calls on us to engage a variety of voices and establish a wide range of placement opportunities in our PIT career efforts.

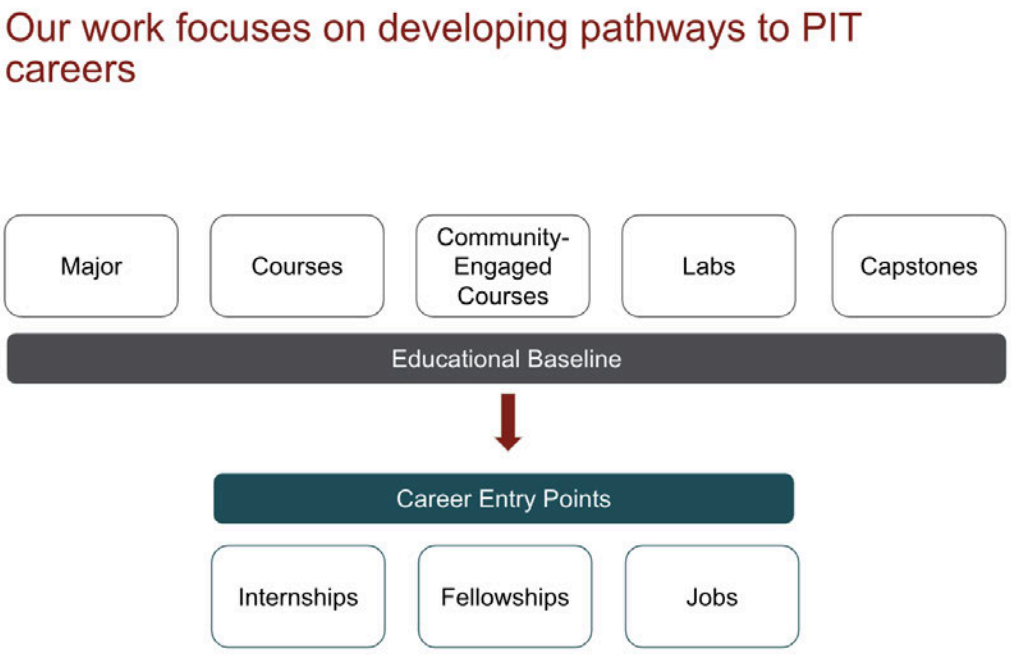


Figure 1: An educational baseline provides the necessary preparation for pursuing a PIT career

**3. Development**

Our intent was to scale an initiative that weaves a PIT identity into Stanford's culture by branding a career pathway and developing real-world opportunities for students to explore PIT in practice. These plans included forging new industry partnerships to double the number of PIT (Cardinal Quarter) summer internships and securing 15-20 year-long PIT Community Impact Fellowships for graduating seniors. Our plans also included working with the School of Engineering to build PIT capstone projects into computer science and engineering programs.

To launch our initial effort, we convened stakeholders from across campus (including other PIT-UN grantees) in positions to help expand opportunities to develop student fluency at the intersection of technology, policy, and the public good. While we initially planned to have the project coordinated by an experienced graduate student under the direction of our Senior Director for Cardinal Careers and Director of Community Engaged Learning for Engineering, we were instead successful in recruiting and hiring an exceptional team of undergraduates to help with project coordination.

As planned, we have worked closely with several student-led organizations for recruitment and promotion, including: CS+Social Good, the Stanford PIT Lab, Code the Change, Society for Black Scientists and Engineers (SBSE), Women in Computer Science (WICS), and the Stanford Social Entrepreneurial Students' Association (SENSA).

As we discuss below, we were forced to reschedule several events due to the onset of the COVID-19 pandemic, but we are pleased to report that we have nearly completed all planned deliverables. These include: increased student knowledge of PIT career opportunities, as evidenced in the student survey; more than doubling the number of PIT summer internships to 16; offering nine postgraduate Community Impact fellowship opportunities at PIT placement partners; and the integration of PIT projects with at least one senior capstone course in computer science or engineering.

We planned and held a number of PIT-specific events and added PIT alumni to more general careers events:

| Event/Date | Speakers |
|---|---|
| How Tech Companies Can Maintain Integrity During COVID-19<br>April 7, 2020 | ● Rob Chesnut, Chief Ethics Officer, Airbnb |
| Stanford Alumni Association Spring 2020 Virtual Speaker Series: Public Service Careers<br>May 27, 2020 | ● Julian Castro, 2020 candidate, U.S. Presidential Election<br>● Amanda Renteria, Chief Executive Officer, Code for America<br>● Jeff Raikes, '80, co-founder, Raikes Foundation |

| | |
|---|---|
| How to Land a Campaign Job This Summer<br>May 28, 2020 | ● Devika Daga, Political Technologist, DigiDems<br>● Alida Garcia, Director of Coalitions and Policy, FWD.us; and founder and Executive Director, Inclusv<br>● Emily Lemmerman, former Senior Data Analyst, Bernie 2020 |
| Advocating for Racial Justice in Tech<br>August 6, 2020 | ● Brandon Anderson, founder, Raheem<br>● Eni Asebiomo, former SpaceX Engineer<br>● Jason Prado, Facebook engineer; member, Democratic Socialists of America; activist promoting anti-eviction laws in the Bay Area; and member, Tech Workers Coalition<br>● Maurice Wilkins, leader, Black Tech for Black Lives; and Head of Diversity and Inclusion, Fastly |
| Careers in Public Interest Technology Panel<br>August 7, 2020 | ● Matt Cagle, JD ’12, Technology and Civil Liberties Attorney, ACLU of Northern California<br>● Marty Esquibel, ’90, MS ’92, HIPAA Privacy and Security Officer, Colorado Department of Human Services<br>● Eric Giannella, ’04, MS ’09, Data Science Manager, Code for America<br>● Heejae Lim, MBA ’15, founder and CEO, TalkingPoints |
| PIT Symposium: Powered with Purpose: How to Leverage Technology for the Public Interest<br>December 1, 2020<br>*This event was co-sponsored by Code the Change, CS+Social Good, the Stanford PIT Lab, SBSE, SENSA, and WICS and was followed by a public interest technology student organizations fair* | ● Mehrah Sahami, Stanford Computer Science Professor (moderator)<br>● Kevin Barenblat, ’97 (Industrial Engineering), co-founder and President, FastForward<br>● Amanda Renteria, ’96 (Political Science, Economics) CEO, Code For America<br>● Dan Getelman, co-founder and CTO, Remix, Forbes “30 Under 30” |

Our initial Challenge Grant generated a surge in interest in PIT careers. Student assistants were also instrumental in securing and promoting our new PIT summer and postgraduate fellowships. PIT Cardinal Quarter summer internships demonstrated continued strong demand, receiving between six and 30 applicants for each position. For example, the position with Recidiviz received 30 applications; Tarjimly, 23; JustFix, 17; Unum ID, 15; and Data for Black Lives, 12. Our PIT postgraduate fellowships garnered six to seven applicants for each position.

[redacted]

A perceived lack of qualifications of students in fields not traditionally associated with technology—such as social sciences or public policy—is also a barrier to equity and access related to PIT. Students matriculating from less resourced high schools may find themselves at a disadvantage compared to classmates who enter with advanced academic standing. While Stanford has highly effective support systems for these students, many opt out of pursuing a technical degree and the diversity of our engineering/CS student body is diminished as a result. We therefore increased our emphasis on students

who may not identify as technologists, but are in a position to be at the forefront of equalizing access to technology, promoting ethical and inclusive tech, and using and responding to changes brought by new technologies. We focused on raising awareness of career possibilities in PIT for students in fields outside computer science and engineering and ensuring that projects and internships present ways to study technology as a tool to address social problems.

**5. Lessons learned**

Going into the project, we were well aware that there were numerous PIT-related projects and initiatives happening at Stanford and that there was strong interest on the part of students in participating in various ways. We also knew that it was critical to identify and make easily accessible the available options, but found we had no existing mechanism for collecting, communicating about, and raising the visibility of these opportunities. We approached this need through a multi-pronged approach:

- Reaching out to faculty and staff in relevant areas and requested written summaries of ongoing PIT-related work
- Convening faculty and staff to share insights and program updates in person
- Creating a "PIT Ecosystem," a comprehensive database of centers, initiatives, courses, internships, and career opportunities updated on a regular basis
- Forming a Community of Practice open to all Stanford faculty and staff working on or interested in Public Interest Technology to meet quarterly to share updates and assess needs and areas for collaboration
- Expanding our weekly PIT careers-focused newsletter to include campus research opportunities, along with a process for faculty to submit projects they would like to advertise to students
- Working with student organizations to create a *Guide to Public Interest Technology at Stanford*, which summarizes the key PIT opportunities on campus and ways for students to get involved

While this work has made it easier to find opportunities to engage with PIT, we also found that more can be done to provide a coherent path for students, starting with academic preparation and experiential learning, then proceeding to practical experience through internships, then having access to PIT career-launching opportunities. We also have more work to do to include students from identity-based, tech student organizations, which have not been closely affiliated with the Haas Center for Public Service in the past. To do this, we plan to reach beyond Stanford's engineering school to better engage students who may not identify as technologists, but are interested in promoting ethical and inclusive tech policy.

We hope that other PIT-UN members will be inspired to position PIT as an opportunity for social science students wishing to engage more in technology strategy and policy and for STEM students to engage more in the political/social domain.

**6. Possibilities to replicate**

Many of the activities we have developed could be replicated by other universities, including creating a database of internships, courses, and other PIT-related opportunities; supporting faculty to develop PIT-related courses; collaborating with organizations to create summer PIT internships; and so on. We would be happy to share our experiences and lessons learned with any other university interested in coordinating existing campus efforts and enhancing their hands-on pathways to PIT careers.

**7. General Information**

We would be pleased to share our approach and materials with all interested parties. Please feel free to contact:

> Deborah Stipek (PI), Peter E. Haas Faculty Director, Haas Center for Public Service; and Judy Koch Professor of Education, Stanford Graduate School of Education (stipek@stanford.edu)
>
> Leslie Garvin (Project Manager), Senior Program Director, Cardinal Careers (lsgarvin@stanford.edu)
>
> Shoshanah Cohen (Project Manager), Director of Community Engaged Learning - Engineering; and Lecturer, Mechanical Engineering (shosh@stanford.edu)

As we complete our Year 1 Challenge grant activities, we are pleased to embark on our Year 2 journey, in which we will be building private-sector PIT career pipelines by curating opportunities to use technology for public benefit and preparing students via experiential education. We are excited to partner with the University of Washington (UW) and Pepperdine University on this next phase of work, which will allow us to leverage each university's strengths and connections—including Stanford's Silicon Valley relationships, UW's Seattle-based tech connections, and Pepperdine's GovTech leadership program.

We have several new Stanford collaborators for employer outreach for our follow-on Challenge project. These include BEAM/Stanford Career Education, and the Stanford Computer Forum, a cooperative venture between the computer science and electrical engineering departments and 70+ companies. In addition to exchanging advanced technological ideas, the Forum provides an opportunity for its members to become familiar with the abilities and interests of Stanford students through its active recruiting program. We will be collaborating with the Forum on its annual job fair—broadening the attendees to include PIT organizations for the first time and showcasing PIT placement partners.

Our Year 2 Challenge goals include further expansion to departments and students who may not identify as technologists. Stanford faculty have interest in preparing these students for technology-focused careers and students are proactively seeking such opportunities. The university is funding opportunities for initiatives focused on data-driven projects spanning both the public and private sectors, with social sciences faculty and students strongly encouraged to participate. This bodes well for our plans to include students from these areas in our career pipeline development. We are excited about the momentum developed thus far and look forward to the next phase of work.

**8. Annexes & Publications**

Career Guidance

- Finding and Navigating Public Interest Technology Careers (video)
- Pursuing a Career with Impact
- PIT Careers Newsletter Archive

Events

- "Powered with Purpose" Convening
- New America Conference Presentation

Resources

- Stanford PIT Lab
- *Guide to Public Interest Technology at Stanford* (forthcoming)

Articles & Opinion

- "Tech for Tech's Sake"
- "How Stanford is inspiring students to think critically about the impacts of technological change"


HOW TO GET A PIT JOB
WHAT IS A PUBLIC INTEREST TECH ORGANIZATION ?
There are for-profit start-ups and companies that use technology to provide a public benefit to society, tech non-profits, and tech for good opportunities that are in and serving government.
WHAT IS YOUR PASSION?
Consider what matters to you and how you want to use technology to create and support the change you want to see in the world. What values are you looking for in a technology organization? What are the deal breakers?
REACH OUT
Reach out to alumni and connections to express your interest in their work. You can use Stanford Alumni Mentoring to find and build connections. Ask about entry points into the field and if they are willing to connect you with colleagues in other organizations.
SEARCH JOB BOARDS
We recommend Code for America, Tech Jobs for Good, and Idealist. Incubators like Fast Forward and Higher Ground Labs also post job listings at portfolio organizations.
ON CAMPUS RESOURCES
You can make an appointment with a Haas Center Cardinal Careers Advisor and apply to Stanford specific fellowships such as the Community Impact Fellowship, a one-year post-graduation fellowship, or funded social good summer internships with CS+Social Good and SENSA.
EXAMPLES OF ORGANIZATIONS
Change Research
Code for America
Khan Academy
Nava
NYU AI Now Institute
Reheem
San Francisco Digital Services
...and more!
Stanford | Career Education
BEAM: Bridging Education, Ambition & Meaningful Work
Stanford | Haas Center for Public Service
The Hub of Cardinal Service