# The Berkeley Collegium

# Narrowing the Gap Between Teaching and Research Grants Program

Assessment of Second Cohort of Grant Recipients (2016-2018)





# **Projects Awarded**

The second call for proposals in this grants program went out in the spring of 2016, and resulted in our funding the four projects for the 2016-2018 period. Details of each project are provided below:

Title	Creating and Mentoring a Community of Undergraduate Student Researchers in Economics	Expansion of BioEngineering Guaranteed Research Opportunities program (BEGROw)	Making Sense of Cultural Data	Human Rights Investigations and Technology: An Open Source Intelligence Lab for Undergraduate Researchers
Recipient	Martha Olney Economics	Terry Johnson Bioengineering	Abigail De Kosnik Berkeley Center for New Media and Dept. of Theater, Dance & Performance Studies Program	Alexa Koenig Human Rights Center at UC Berkeley School of Law
Award Amount	\$29,995	\$25,000	\$30,000	\$30,000
# of students impacted 2016-17	66	7	17 undergraduates 11 graduate students	104
# of students impacted in 2017-18	76	7-11	n/a	151
Sampling of enrolled majors	All economics majors	All bioengineering majors	Assorted humanities majors, computer science	Over 25 different majors and minors (e.g., journalism, sociology, political science, CS, law)
Gender distribution (% women)	Average of 51.8% across the 2-year period	Average of 56% across the 2-year period	71% undergraduates; 63% graduate students	Average of 78.5% across the 2-year period

# **Progress Reports and Assessment**

We obtained brief progress reports (i.e., short narratives and budgetary updates) from the awardees at the end of the Fall 2016 and Spring 2017 terms, and hosted a campus-wide showcase at the end of the first year (May, 2017) where each of the awardees in this second cohort presented their progress and/or outcomes of their project to date. We got another brief progress report at the end of the Fall 2017 term.

Finally, we conducted face-to-face assessment interviews with each grantee during the second half of the Spring 2018 semester as the final assessment of the two-year granting period. This report reflects a compilation of the data obtained through all of the assessment methods.

# Creating and Mentoring a Community of Undergraduate Student Researchers in Economics

# Martha Olney (Economics)



# **Project Description**

This project aimed to develop a new program in the Economics Department, the "Undergraduate Student Researcher Mentoring Program." Undergraduate research opportunities are challenging to develop in economics where there are no laboratories or other obvious ways to easily incorporate undergraduates. Nevertheless, research opportunities, peer effects, and interactions with graduate students are important features of Berkeley's economics program. The new program aimed to significantly improve upon the Economics Department's existing approach to matching undergraduates to graduate students seeking research assistants: an email to economics majors invited them to indicate their interest, availability, language and programming skills; the database was subsequently shared with interested graduate students and faculty. There was no oversight, no uniform set of skills developed, no integration with the undergraduate curriculum. It was bare-bones but popular. To build the new program, Olney and colleagues consulted with and borrowed ideas from UCB's SMART Mentoring program (<u>http://smart.berkeley.edu</u>), an admirable program with limited reach. Proposed components of the new program were:

- *Require and provide guidance on mentoring:* Martha Olney will develop a half-day workshop for graduate students covering best practices in mentoring. The workshop will sustain itself; once developed, it can be repeated each term at no additional cost. Graduate students who participate in the workshop and two follow-up meetings with Olney will receive \$300 incentive stipends.

- Offer (small) incentives to undergraduates: With funding, we can offer \$300 incentive stipends to undergraduates who complete a semester of research assistance.

- *Teach (marketable!) data skills.* We will build on what's taught in the econometrics class required of all majors. A graduate student will develop three 2-hour workshops for undergraduate RAs on using Stata, R, Python, and the like.

- *Create community:* Undergraduate researchers will meet at a welcoming reception. With Piazza, we will sustain their community virtually.

- *Provide presentation opportunities:* Undergraduates can present their work at an end-of-term workshop. Together, the grad student and their RAs will develop a poster for display in the Evans hallway.

- *Outreach:* Building on our participation in the Undergraduate Women in Economics Challenge (<u>http://scholar.harvard.edu/goldin/UWE</u>), we will target outreach to women and under-represented minority students.

# **Learning Outcomes & Goals**

- Provide graduate students with guidance and training on mentoring
- Provide undergraduate students with hands-on research experiences
- Teach undergraduates marketable data skills
- Provide undergraduates with the opportunity to learn communication skills by presenting their research to faculty, graduate students, and peers
- Foster a research community in the Economics Department for the exchange of ideas and skills

# **Reflections From & Impact on Martha Olney**

Despite discerning a real need for and interest in the proposed program, Dr. Olney was still surprised at how successful the program was among both its undergraduate and graduate student participants and how much both types of students appreciated having this opportunity. Undergraduates received better mentoring through this program, including advice regarding graduate school and other post-graduation options. Graduate students received the kind of formal mentoring training that graduate students in the SMART program receive—which is immensely helpful for mentoring undergraduates in this program, but also beyond. The training was not too onerous, which made the experience positive, and was paired with periodic check-ins with Dr. Olney.

Dr. Olney was delighted when the chair of Economics took the lead on connecting with university development staff to find a donor to provide support for the program going forward. The program is now funded by a donor for the next 5 years (\$30K per year).

Running the program does require a faculty member to oversee the program, and this is a (surmountable) hurdle that will need to be worked out when Dr. Olney steps down from her role in the program—and will be something any department that launches a similar program will need to tackle.

#### **Course Evaluations**

This project did not involve a course, so there are no teaching evaluations, but see the "Student Feedback" section below.

### Sustainability and/or Scalability

By the end of the first year of this program (2016-2017), the department chair and division development officer of the Economics Department identified a donor who has pledged \$30,000 per year for 5 years to fund this program.

### **Student Feedback**

Feedback provided by sampling of undergraduate student participants

From May Lyn Cheah:

- *My motivation going into the RA-ship:* As an economics major, I get exposed to numerous economic papers. Reading those papers makes me curious about how economic research is actually done. I decided to join the RA program, hoping to gain a deeper insight into research and to polish my Stata as well as Excel skills.
- *How to make the most of an RA-ship:* Do not be afraid to ask questions whenever you are unsure of something. Otherwise, you might spend hours trying to figure out how to do a particular task which might not be that hard after all. The graduate students are more than willing to give you guidance where necessary.
- *An example of a concrete skill I developed:* I learnt how to use a mapping software called ArcGis. I had to assign unique ID codes to entries in the dataset and join them to the Shapefile of the area that I would like to map the data on. I also learnt that I have to be very detailed when writing my do

files and in explaining the steps I took to complete a particular task. This will enable others to understand my work easily and to replicate what I did. Replication is important in economic research.

• *What I took away from the RA-ship:* The experience of working with brilliant Economics graduate students who are all very passionate about their projects has been invaluable to me. They inspire me to conduct my own research in the near future.

From Mitchel Kwok:

- *My motivation going into the RA-ship:* I was planning on writing an honors thesis in my final semester and thought that this RA program would be a good opportunity to gain exposure to the research process, learn about the interesting work being done on campus, and get more practice working with data.
- *How to make the most of an RA-ship:* Communicate with your grad student as much as possible, and not just about work. Get to know them they can be pretty cool!
- *An example of a concrete skill I developed*: Stata. I came in with a very basic knowledge of Stata (barely enough to do econometrics homework). After working on a couple data tasks on Stata, and with wonderful guidance from the grad students, I can now say I am comfortable working with the program and can manipulate datasets and produce all forms of output tables.
- *What I took away from the RA-ship:* Aside from the tangible data skills and exposure to the process, the thing I feel I gained the most from was really getting to the grad students and getting their invaluable advice on my own research, career goals, grad school and life.

From Shuying Wu:

- *My motivation going into the RA-ship:* My goal as an RA was to get involved in a specific research project and gain more practical skills. I also expected to make more friends.
- *How to make the most of an RA-ship:* Be more active in the research team, and do not hesitate to ask questions. It is always helpful to talk with others when you get stuck.
- An example of a concrete skill I developed: There was a task that required me to create a table of FDI inflows into some Latin American economies for the recent ten years. The task involved collecting data from relevant websites and constructing a table similar to the one in an academic paper. One of the most important skills I learned is how to replicate the work of others in order to check the accuracy of my method. Interpreting the difference between my results and those in the paper is another essential capability I obtained.
- *What I took away from the RA-ship:* Combining research experience with what you have learned in class will be a good way to consolidate your knowledge and understanding.

From Evan Walsh:

• The RA program was a great way to get introduced to and appreciate economics-based research. It showed me what economics looks like at a higher level. But most importantly, it connected me with incredible grad students who were extremely willing to advise me and help me out. As a result, the program has really increased my appreciation for economics while also making me strongly consider grad school.

From Amir Heidari:

• It was really interesting to see how graduate students come up with and develop research questions. And then how these research questions are turned into mathematical models that are tested. The whole data collection process was eye opening and rewarding.

### Feedback provided by sampling of graduate student participants

From Zachary Bleemer:

• I was able to use the mentorship program's funding to recruit to highly-qualified undergraduates, both seniors with prior research experience, to take over two components of a large project examining the role of California universities--and the University of California in particular--in promoting economic mobility and gender/ethnic equality in the first half of the 20th century. One undergraduate spent the semester applying machine learning algorithms to university student data to predict student demographic characteristics, while the other wrote linking algorithms connecting university administrative data to the US Census. Both fully participated in the research process and were successful in conducting their respective projects; I'm excited to continue working with them, along with new assistants, next semester.

From Gillian Brunet:

- My RA has been helping me both with researching institutional details for my job market paper and with data work that will help me with future extensions of my research. My job market paper is about understanding the stimulative effect of U.S. government spending during World War, and provides insights both into the economic history of World War II and into the ways in which the underlying economic environment can affect the efficiency of government stimulus.
- My undergraduate research assistant has been a tremendous help this semester. With my guidance, he collected systematic information on how the rationing of both consumer goods and raw materials was implemented during World War II. He also read annual reports of firms that were major producers of war goods and collected information from them for me on everything from plant expansions and employment growth to employee participation in payroll deduction programs for war bond purchases. My research assistant has also begun coding product descriptions from my data set by product type and by whether particular goods had civilian uses and whether they were rationed, which will be immensely helpful to me in future research.
- As a graduate student, I have learned a lot about managing people effectively and how to give assignments in ways that encourage creativity, engage the worker's interest, and produce the desired output in a usable format. My research assistant has gained skills in archival research, organizing information effectively and consistently, and coding in Stata. The experience has been valuable to both of us, and I am thrilled that he will continue working for me next semester.

# Expansion of BioEngineering Guaranteed Research Opportunities program (BEGROw)

# **Terry Johnson (Bioengineering)**



# **Project Description**

This project was aimed primarily at extending the reach and activities of an existing program in the Bioengineering Department. In 2014, the Bioengineering Department launched the BioEngineering Guaranteed Research Opportunities (BEGROw) program, designed to improve the enrollment and success of underrepresented bioengineering undergraduates. In the spring they are matched with a Bioengineering faculty mentor who will host them in the laboratory for 8 weeks during the summer. Daily supervision is provided by an advanced graduate student or postdoc. A \$4,000 stipend is provided at the beginning of the summer to help cover the cost of housing and food. Before matching, they are included in a fall mixer with faculty, staff and previous BEGROw students, and a spring workshop on research skills and etiquette. They also have additional access to our head undergraduate faculty adviser to discuss issues and concerns throughout the school year.

An intensive mentored research experience in a faculty laboratory is both highly attractive to incoming students, and is an excellent catalyst for their long term success. The program provides participants with a support network of peers and faculty, and gives them an opportunity to connect their coursework—which, during the first year, is primarily outside of the College of Engineering—with engineering research practice.

BEGROw participation offers are made during the freshman/transfer admission process. Offer letters are sent after a student has been accepted but before they have submitted a Statement of Intent to Register (SIR), to improve yield as well as retention. The initial results of this program were quite promising — in our first two years of BEGROW (2015, 2016), we had 17 underrepresented minority (URM) SIRs, compared to 7 in the two years previous. Out of a total of 17 BEGROW students over two years, 14 participated in the summer research component.

In addition to expanding the number of students served, this project involves establishing a travel fund for the BEGROw students to attend and present at research conferences (e.g., the Biomedical Engineering Society Annual Meeting). Presenting a poster at a regional or national conference is an outstanding experience for students and an excellent item for their resume or graduate school application. We routinely have undergraduate researchers who have difficulty raising the funds to travel to conferences to present their work. This additional funding would give students the opportunity to learn how best to present their work, and to network with peers, potential graduate advisors, and potential employers.

#### **Learning Outcomes & Goals**

- Obtain hands on, mentored practical research experience
- Provide students with a support network of faculty and peers
- · Provide opportunities to connect coursework with engineering research practice
- Provide opportunities to travel to conferences to present research findings and increase professional networks

#### **Reflections From & Impact on Terry Johnson and Aaron Streets**

Equity and inclusion concerns were the driving force behind this program—ensuring that underrepresented students would be aware of, have access to, and partake in the kinds of research/discovery opportunities that majority students often take part in. The program has been successful in this regard, although Drs. Johnson and Streets note that the program is inherently limited in size. That is, the program offers in-depth research experiences that require graduate, postdoc, and/or faculty mentoring, which is a finite resource. At the same time, Drs. Johnson and Streets note that the program needs to have a "critical mass" (number of students) in order to build a culture and shared identity among program participants. The program is headed in this direction. Creating a webpage presence would help on these fronts, as well as aid in program recruitment.

Regarding sustainability and funding matters, the department has committed to continue funding for the time being. At the same time, Drs. Johnson and Streets merged BeGROw with a broader, more visible program in the College of Engineering (BioEngineering ESP) to help with donor/funding efforts (see below).

### **Course Evaluations**

This project did not involve a course, so there are no official teaching evaluations. However, Dr. Johnson did administer a short survey to the 2017 cohort and will do so again for the 2018 cohort. Ratings from this survey appear immediately below. See also the "Student Feedback" section below.





It is also worth noting that the Summer 2018 cohort has already completed the new BioESP fall seminar. This is a broader cohort, including the BioESP research fellows as well as a number of students they wanted to plug into the support network, but could not offer BioESP Fellows research to.

- For 1st year students: the average fall 2017 BioESP seminar attendee GPA was 3.25, compared to 3.08 for students who were invited but could not attend the seminar due to scheduling reasons. (16 attendees/3 unable to attend)

- For junior transfers: the average fall 2017 BioESP seminar attendee GPA was 3.79. compared to 2.9 for students who were invited but could not attend the seminar due to scheduling reasons. (3 attendees/5 unable to attend)

#### Sustainability and/or Scalability

Dr. Johnson and colleagues are working with the College of Engineering to separate the advising/ support component and the summer research component, to best serve the largest number of students. Beginning in 2018, the BioEngineering Scholars Program (BioESP) will include the specialized advising component of what was formerly known as BEGROw, along with a 1-unit professional development seminar. The summer research component of BEGROw, which is limited by budget to a smaller number of students per year, will become the BioESP Fellows program.

#### **Student Feedback**

What is the most important thing you're taking away from your BEGROw experience?

- I learned to apply all of my skills to work on a single task.

- Learning how a research lab is run and getting an introduction to bioengineering and interdisciplinary research, as well as how to work with a vast variety of people with different personalities and different academic backgrounds.

- I learned how to apply my classroom knowledge into research, how to work with faculty and advanced students, how to voice my opinion, and how to ask questions.

- My ability to work within the lab structure and experience with those in my lab was far better than I could have expected.

#### How could the program improve next year?

- Making it longer.

- Maybe including some cell & tissue engineering labs, because the lab I worked in didn't really correlate with my interests.

- This program is amazing and I am so thankful to be able to do research as a freshman and learn more about my career path. I hope to be involved with more research programs this year.

- Extending the length of the program to cover two weeks before the academic year began would be much appreciated. The official length of the program is far too little and if I were to leave the lab in its current position then most of the work I have done would be incomplete.

# Making Sense of Cultural Data

# Abigail De Kosnik (Berkeley Center for New Media and Dept. of Theater, Dance & Performance Studies)







# **Project Description**

This project is tied to a seminar offered by Prof. DeKosnik, "Making Sense of Cultural Data," open to undergraduates and graduate students. The course will invite 15 upper-division undergraduates and 15 graduate students to form small (three- to five-person) research teams that formulate humanities-based research questions that they will answer by analyzing large news service databases (e.g., The New York Times, Al Jazeera, and BBC News archives), films and television series, and the social media platform Twitter. Examples of the types of queries that student teams may develop are:

- What have been the most frequently occurring words/phrases in recent news articles on the environment (e.g., "Flint water," "oil spill," "Arctic")? How have these changed with each major environmental accident or disaster?
- In a representative sample of Hollywood movies and television shows, how often do characters of color speak vs. white characters?
- On Twitter, how often do the names of victims of police shootings appear in #BlackLivesMatter tweets?

For the past three years, Prof. DeKosnik has worked closely with several organizations and individuals that are developing tools to: a) "scrape," or extract, large volumes of data from various online and digital repositories; b) "count" the data (quantify how many times a given word, phrase, character, or user, appears over a given time span); c) find relationships between specific words, phrases, characters, or users in the data set; and d) generate visualizations that represent these findings.

The goal of "Making Sense of Cultural Data" is to introduce the leading-edge tools with which Prof. DeKosnik has worked (these tools are not publicly available) to a group of students, and to train them in the critical digital humanities methods that they will need to "make sense" of textual, audiovisual, and quantitative data. Students will learn how to craft high-level humanities queries about cultural and social texts, how to design specific and effective queries for large databases of words and images, and how to link those two lines of investigation. Students will collaborate with one another and with tool developers (who will be invited as guests to the seminar) to conduct their data analyses and produce visualizations. The student teams will then co-author article-length papers that they may submit for conference presentations and/or journal publications. With a Graduate Student Instructor (who will be supported by the Berkeley Center of New Media), Prof. DeKosnik will teach a curriculum that orients students to relevant humanities and data methods generally, and then will closely advise and guide student teams' research projects, and facilitate their cooperation with tool developers.

#### Learning Outcomes & Goals

- Learn and master data science and computational humanities research methods, as well as pioneer new ones
- Read research authored by established scholars, as well as conduct original research projects on cultural phenomena (both delimited texts and platforms [e.g., films, music, social media, photography] and matters of everyday life [e.g., grocery stores, real estate prices])

# **Reflections From & Impact on Abigail De Kosnik**

Among a number of features and highlights of the course was the fact that the students in the course came from a broad range of disciplines. This made for highly interdisciplinary interactions and a great deal of cross-fertilization of ideas. Dr. De Kosnik likened the course to an "improv" class and remarked that there was "magic" when students talked to one another. The course also benefitted from having both graduate and undergraduate students interact and learn from one another. Although the course clearly involved access to and use of digital tools, Dr. De Kosnik put a real emphasis on students asking questions first and then finding/creating the digital tools/methodologies to seek answers to them.

One insight Dr. De Kosnik shared related to sustainability is that she may have benefitted from the funding being distributed in multiple installments. This would have encouraged finding ways to make the funds last longer, more than one semester.

### **Course Evaluations**

The two sets of ratings below are based on evaluations completed by 12 (~70%) of the 17 enrolled undergraduate students. All ratings were made on scales of 1 to 7, with higher numbers being more favorable.

# Considering both the limitations and possibilities of the subject matter and the course, how would you rate the overall effectiveness of this instructor?



Considering both the limitations and possibilities of the subject matter and the course, how would you rate the overall effectiveness of this course?



Other feedback/outcomes of the course include:

At the end of the course, Dr. De Kosnik encouraged students to considering submitting their final individual and/or group papers to journals for publication. One student's individual paper recently was peer-reviewed at the journal Social Media & Society and received a "revise and resubmit" notice. Dr. De Kosnik worked with the student on her revisions and expects that the journal will publish

her paper. Two students are currently reworking their group paper to submit to journals this fall. Two students will be presenting their individual research at the upcoming HASTAC conference (the largest conference for digital humanities research). Dr. De Kosnik anticipates that she will be working with students from this course for the next two years to help them refine their research papers and present or publish them, or develop them into honors theses.

### Sustainability and/or Scalability

All of the Collegium funds were used for the one-time offering of the course in Fall 2016. However, Dr. De Kosnik is thinking of ways to run this course again with fewer funds. She will always need, at the least, a GSI who knows how to code OR about \$5K to pay for some (non-GSI) outside graduate student or staff member to help students with coding. It may be possible to get that kind of funding in the future, possibly from the new data science program being assembled right now.

# **Student Feedback**

- "This was the best course I've taken at Berkeley."
- "I think it [this class] changed my career path as a whole!"
- "[I am] so much more literate at data analysis."
- "[This class was] very useful, I feel like I've developed a lot of skills."
- "I plan to continue to study data science and this class has been incredibly useful and insightful!"

# Human Rights Investigations and Technology: An Open Source Intelligence Lab for Undergraduate Researchers

# Alexa Koenig (Human Rights Center at UC Berkeley School of Law)



# **Project Description**

Increasingly, human rights investigations rely on open source intelligence (OSINT) research to identify, document, and verify atrocities, such as genocide, crimes against humanity, and war crimes. OSINT refers to sources that are available to the public-including social media and online video and image sharing services. These open sources provide important information about human rights violations and their perpetrators. For example, a report from Bellingcat convincingly documented Russian involvement in the downing of Malaysia Airlines flight 17 over Ukraine and did so exclusively with open source investigation techniques.

Berkeley does not offer training in open source research methods. Indeed, at present, no American university provides this training to undergraduates. Our aim is to provide undergraduate students a unique opportunity to learn open source investigations skills and apply them in a human rights context. We will build an OSINT investigation lab for undergraduates as a bridge to existing undergraduate human rights courses, including Legal Studies 154, History C187, and a new ACES course in human rights and technology.

Berkeley's OSINT lab will provide practical and relevant training, education, and research opportunities to approximately sixty students, drawn from these courses and others, each semester. The lab will give students a place to grow and apply their skills through hands-on human rights research projects under

the supervision of Alexa Koenig, a trained Graduate Student Researcher, and other world-class OSINT investigators. This training will include demonstrations and practice with software, data sets, querying tools, and APIs, as well as legal processes, like Freedom of Information Act requests. With this training, students will conduct supervised research into suspected human rights violations and compile that research into innovative reports. The Human Rights Center will publish and publicize these reports with an eye towards impact and accountability.

# **Learning Outcomes & Goals**

- Learning and improving open source investigation methods to identify, document, and verify atrocities, such as genocide, crimes against humanity, and war crimes
- Conducting independent investigations using OSINT methods
- Providing students with leadership opportunities through peer-training program
- Training students in cutting-edge skills that are increasingly in high demand
- Building networks for future employment while students earn units toward graduation

# **Reflections From & Impact on Alexa Koenig**

Dr. Koenig gained a number of key insights from launching this program. First, she witnessed how starving students are for experiences like those provided in the human rights laboratory – experiences that combine academic training with meaning and having a real world impact. She also noted that students know what they need, that providing them with the opportunity, a home, tools, space, etc. is the first step and students will take things from there. Moreover, she saw that, in addition to gaining research experience, students in the lab developed a real sense of belonging and identity (even creating t-shirts and coffee cups with the lab logo!). Finally, she has been delighted to see that the lab is beginning to serve as a pipeline into human rights careers.

On another front, Dr. Koenig underestimated, as many do, the psychosocial aspects of engaging in human rights investigations. The campus (and world) is under-resourced in resiliency training for doing this kind of work. Dr. Koenig and colleagues are making various efforts to rectify this state of affairs for Cal students, but also human rights investigators across the world more broadly.

### **Course Evaluations**

This project did not involve a course, so there are no teaching evaluations. However, see the "Student Feedback" section below.

# Sustainability and/or Scalability

The lab has garnered considerable national and international attention, including an article in New Scientist in December 2016, a featured program on PBS NewsHour in February 2017, and a news feature in the San Francisco Chronicle in April 2017. The lab is working with legal scholars, court investigators and prosecutors, and open source experts to establish international standards for open source evidence for legal accountability. They also hosted an international student summit on open source investigations at UC Berkeley, which was covered by The Mercury News. Awarded a grant from the Rockefeller Foundation, we are also hosting a workshop in Bellagio, Italy, in October with global leaders to help to develop protocols that can be shared with courts and local human rights organizations to guide their own open source investigations and ideally increase the weight that judges will accord evidence produced from these methods in court. Additional funding will be sought to continue and expand the lab's training capacity.

# **Student Feedback**

• "Since I fled Egypt, I had been struggling to regain a sense of family and home. I had constantly wished to have some impact on the injustice I had witnessed. In 2016, the HRC changed my life.

It has become my home, my family, and my vehicle for justice."

- "The lab has provided me with a sense of purpose as a student, but also it has confirmed my passion to promote justice over impunity. It has allowed me to reevaluate how to approach a news story and to think critically in a manner that highlights people over politics. Most of all, it has bestowed upon me a sense of agency with which I cannot only ask questions, but also find solutions using the verification tools that the lab has taught me, allowing me to rely on my own capacity to build evidence instead of helplessly and passively waiting to receive it."
- "I really like the kind, collaborative nature the lab has fostered. It is so nice to feel productive as an undergrad. Often times our coursework is very theory based and any type of internship or job often just involves menial tasks. The lab has provided this incredible environment where we are trusted with sensitive data and difficult tasks, while at the same time learning so much. I always look forward to coming into lab, it has been one of, if not the best, experience I have been a part of at UC Berkeley."
- "In addition, I have really enjoyed the hands-on feeling that the lab creates. The world seems so bad, and being able to sit down at my computer for an hour or so and feel like I have made important, tangible difference has been a very meaningful experience."