

# Resources

A repository for useful data science, project management, and professional development resources

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# Prize Opportunities

One way to use Discovery Exchange is to find teammates to work on contest submissions. We'll keep this post updated with upcoming prize opportunities- if one gets you inspired, create a project and find teammates!

## Big Ideas Contest

Big Ideas is an annual contest aimed at providing funding, support, and encouragement to interdisciplinary teams of students who have “big ideas.” Since its founding in 2006, Big Ideas has inspired innovative and high-impact student-led projects aimed at solving problems that matter to this generation.

Big Ideas supports students at the very early stages of developing their ideas. Often, students who compete in Big Ideas have never entered an innovation contest or written a real-world proposal. The Contest challenges students to step outside of their traditional university-based academic work, take a risk, and use their education, passion, and skills to work on problems important to them.

In running the contest over the years, we've learned how to provide the support students need to turn their ideas into action. Most importantly, Big Ideas is designed as a year-long process. Through training and mentoring, students develop the skills necessary to plan, launch and manage for success. These include critical thinking, market analysis, team-building and presentation skills. Students enter the contest with creative ideas for social impact, and Big Ideas provides the resources that enable the students to make their project ideas concrete, feasible, and scalable.

Unlike traditional business plan competitions which are designed to vet for-profit companies, the ultimate goal of Big Ideas is to support students in making social change—whether through for-profit endeavors, non-profits, or small ad-hoc teams. Critically, Big Ideas promotes autonomy, initiative, and teamwork early in students' careers, broadening their understanding of how they can use their education and interests to improve society.

By leveraging the creativity of students and the power of competition to drive innovation, Big Ideas creates lasting, positive and impactful social change—empowering a new generation of social innovators.

# Research Resources

# Programming Resources

## Free Google Courses on Python

- Google offers a free online course [Programming for Everybody \(Getting Started with Python\)](#)
- Python is one of the world's most popular and in-demand programming language: [Google Python Course Day 1](#)

## Free Kaggle Courses and Tutorials

- Kaggle, owned by Google, is an online learning platform for data science enthusiasts. They teach data science and host data science competitions. They also have forums to help people communicate with other data science enthusiasts on many relevant topics: [python beginner tutorials](#)

## Udemy Free R Course

- The course is for beginners learning the basics of programming language R: [free R tutorial](#)

# Git and Relational Database Resources

## MySQL Tutorial

- This tutorial is a great and free introduction to using MySQL

## Git

- Resources to learn Git

# Beginner-Advanced Data Science Resources

## IBM Data Course

- IBM offers [free online courses in data science and computing](#). Upon completion of some online courses, a digital badge is offered.

## Coursera Courses

- Some courses offered by Coursera are eligible for [financial assistance](#). For additional information, please contact Coursera directly

# Data Visualization Resources

## Tableau

- Tableau offers students a [free one-year subscription to Tableau desktop](#). For any additional information, please contact Tableau directly.

# Statistical Analysis Resources

## SAS Courses

- SAS, a statistical programming language popular in healthcare and finance also offers some [introductory courses](#) for free.

# Possible Data Sources

Here are some popular data sources that you could use as inspiration for your projects.

## **Compilations of Popular Sources:**

<https://www.kdnuggets.com/2017/12/big-data-free-sources.html>

<https://www.columnfivemedia.com/100-best-free-data-sources-infographic>

<https://www.kaggle.com/>

## **Health:**

Immunizations, Vaccines, and Biologicals:

[https://www.who.int/immunization/monitoring\\_surveillance/data/en/](https://www.who.int/immunization/monitoring_surveillance/data/en/)

Polio Immunization coverage estimates by country:

<http://apps.who.int/gho/data/node.main.A831?lang=en>

<https://www.unicef.org/statistics/> - UNICEF

<https://www.healthdata.gov/> - Health data

## **Civic Sources**

<https://www.data.gov/>

<https://www.congress.gov> (Bills cycle, congressional activity etc)

[http://clerk.house.gov/public\\_disc](http://clerk.house.gov/public_disc)

<https://www.senate.gov/legislative/lobbyingdisc.htm#lobbyingdisc=fec>

<https://www.oge.gov>

<https://cbo.gov/cost-estimates>

<https://www.whitehouse.gov/>

<https://www.archives.gov/presidential-libraries>

<https://www.archives.gov/presidential-libraries/archived-websites>

<https://www.gpo.gov/fdsys/browse/collection.action?collectionCode=CPD>

<https://www.opensecrets.org/elections/>

<http://politicalpartytime.org>

<https://www.fcc.gov>

<https://www.fda.gov>

<https://www.epa.gov>

<https://www.sec.gov>

<https://www.ssa.gov>

# Workshops

# Overview

## Workshop List

<b>Content</b>	<b>Slides and Recording</b>
Orientation	Page
How to Fail	Page
Project Design, Design Justice & Problem Definition	Page
Version Control & Documentation	Page
Conflict Resolution	Page
Team Leadership	Page
Communication	Page
How is Data Made, Biased	Page
Communicating Results & Visualizing Bias	Page
How to Do a Passion Project	Page
Interactive Web-Based Visualizations	Page
How to Talk about Data to Non-Data Scientists	Page
End to End Walkthrough	Page

# Advising

# Peer Advisors

## Peer Advisors

Peer Advisors complement the [Data Science Advising services](#) by sharing their diverse knowledge of and experiences with major courses, different Data Science Major domain emphases, extracurriculars and student groups on campus, research opportunities, and various campus resources.

# D-Lab Advisors

## D-Lab Advisors

[D-Lab](#) offers consulting services on research design, data analysis, data management, and related techniques and technologies. We welcome inquiries from Berkeley faculty, staff, postdocs, and grad students at all levels of expertise. Our standard consulting services are free of charge. In general, we provide consulting for you at your research stage, NOT for coursework. Please use your TAs for support specific to individual classes or assignments.

# Technical Resources

## Team Github

We currently have a DS-Discovery Github organization, which gives us access to the [Github Teams](#) infrastructure. This offers version control, source code management and allows you to manage permissions on project code access, enhancing flexibility in development. For code-intensive and/or multi-semester projects, we especially recommend the use of Github, since it allows the team to collaborate easily, makes it easier to onboard new researchers if they change from semester to semester, and also helps our peer consultants to easily debug code. If you would like to create a Github team, please email [ds-discovery@berkeley.edu](mailto:ds-discovery@berkeley.edu), with title of your project and Github usernames of your researchers, with the subject line "Github Team Setup"

Advising

# Links

- [Berkeley Computing, Data Science, and Society](#)
- [D-Lab Consulting Services](#)
- [Berkeley Institute for Data Science](#)