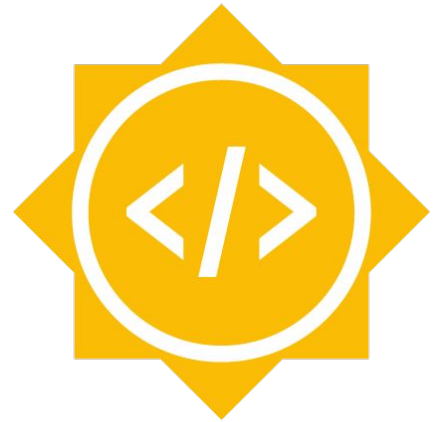
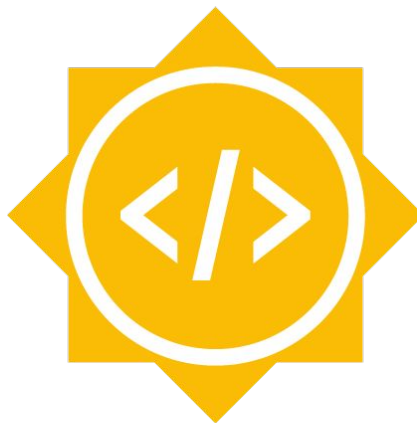


GSoC Introductory Seminar

Register yourself

bit.ly/GSoCKOSS





Google Summer of Code

<https://youtu.be/L4JNz6zWzLs>



Google Summer of Code

What is GSoC?

Google Summer of Code (GSoC) is an online, international program designed to encourage university student participation in open source software development.



Google Summer of Code

About

Students work for an open source software organization, and earn a stipend for successfully completing the project.

University students spend their time outside of school working in a field that can help them with their studies and career *after* university.



Google Summer of Code

How does GSoC work?

Open source software projects apply to be mentor organizations

Google chooses the organizations to participate (200+ in 2019)

Students submit project proposals to mentor organizations



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How does GSoC work?

Mentor organizations choose the students they'd like to accept

Students are paired with a mentor to help them throughout their project

Coding begins! Students work towards milestones laid out in their project proposal with their mentor over 12 weeks



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Evaluations

Students must pass three evaluations

Students who pass each evaluation are paid a stipend for their work

At the conclusion of GSoC, students submit the code they've written for their project for everyone to see and use!



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Eligibility

- Over 18 upon registration
- Accepted into or enrolled in a university program by the student acceptance date
- Eligible to work in the country in which you reside
- Have participated in no more than 1 previous GSoC

++ Willingness and enthusiasm to learn new things.



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Statistics

- In 15 years over 15,000 students from 104 countries have been accepted into GSoC
- Countries with the most students:
 - India (2,831), United States (2,328), and Germany (772)
- 77.5 % were UGs in GSoC 2019, from various branches - Electrical, Mechanical, Civil, Mathematics, Computer Science etc.
- Mentors that are former GSoC students: 691 <Outdated>



Google Summer of Code

Useful links

Program Site: <http://g.co/gsoc>

Student Manual: <http://g.co/gsoc/studentmanual>

Google Open Source Blog: <https://opensource.googleblog.com/>



Google Summer of Code

2020 Program Timeline

| | |
|---------------------------|---|
| Feb 21: | Organizations are announced |
| Mar 16 - Mar 31: | Students submit their proposals |
| April 27: | Accepted students are announced |
| April 27 - May 18: | Community bonding period with orgs |
| May 18 - Aug 10: | Students code the summer away |
| Aug 25: | Successful student projects are announced |

Perks of GSoC

Let's talk about some swag

- Software development skills
- Stipend of \$3000 (*Multiply by 72.02 later*)
 - This is optional. You can also abstain from receiving the stipend :p
- Publishing paper(s), invitation to talks
- Contacts, Letter of Recommendation
- Conferences, Travel



SciPy 2015, SymPy developers, Austin, Texas



Presenting my GSoC work at JuliaCon 2016, MIT, USA



JuliaCon 2016, MIT

National Workshop
On
"Graph Theory and Its Applications"
(04th -05th March 2016)

..... Speakers

Dr. Abhiram G. Ranade, IIT Bombay
Dr. Aditya Abhyankar, DoT, SPPU
Himanshu Mishra, IIT Kharagpur
Amartya Hatua, LG Soft India

In Association with
B.C.U.D., Savitribai Phule Pune University

..... Organized by

Department of Information Technology
Vidya Pratishthan's College of Engineering, Baramati
Phone: 02112-239527 Website: www.vpcoe.org



Govind Lahoti The prof on top takes our algo course _/_

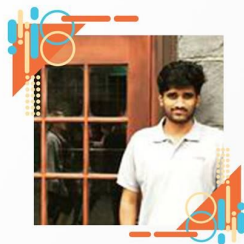
Unlike · Reply · 19 · 6 March 2016 at 11:32

Tutorial on NetworkX, Pune University, 2016



Student Dev Speakers

19-20th January, 2019



Saicharan Reddy

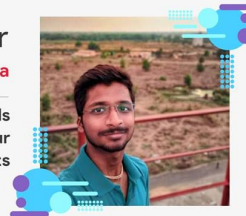
Founder, Freeflo

Embracing New Technologies
is the Key to the Future.

Tarun Kumar

IIT Patna

Hacking Free Online Tools
to Automatically Build Your
Linux OS with Mellix Scripts



Shivam Kumar Jha

IIT Kharagpur

A Dig At Perpetual Processes



Wasim Tabraze

Senior Software Engineer,
Zemoso Labs

Jumpstart to Docker

Shivam Kumar Jha at
Indian Institute of Information Technology Allahabad, 2019

Pranit getting drunk with people from Google, Github (CEO
(back-then)), GitLab (CEO), Intel and Microsoft

Introduction to FOSS

FOSS: Free and Open Source Software

Ownership

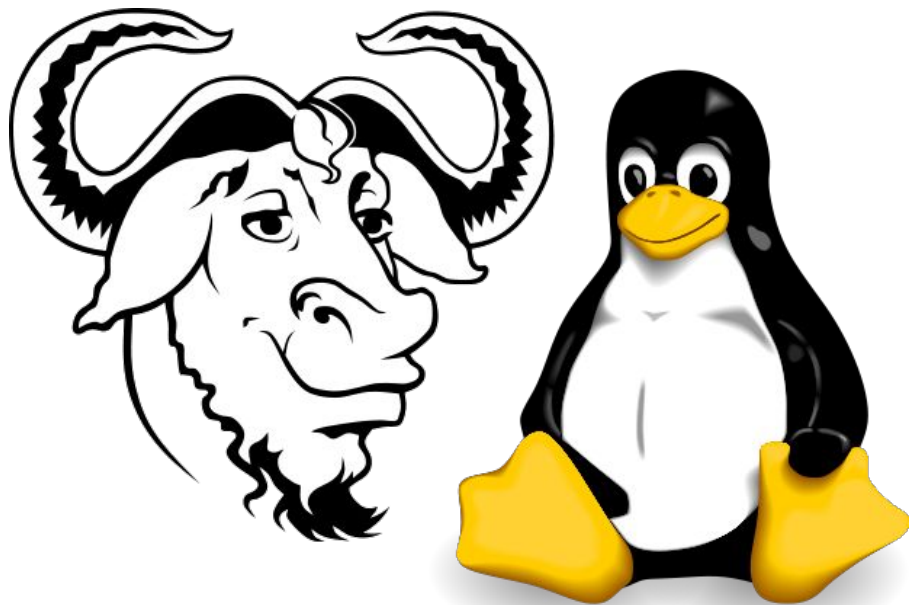


Open Source vs Proprietary Software

Proprietary Software is “property” of someone else and you are licensed to use it, in way the owner wants you to use it.

Accessibility to the source code is a major difference between open source software and proprietary software.

Google Chrome vs Firefox



History of FOSS

FSF and GNU Project

- 1970's Companies used to give software with their hardwares which users can look into and modify
- Richard Stallman, a programmer at MIT AI lab couldn't modify their new printer to notify of jams because its source wasn't available
- 1985: Free Software Foundation was formed and component by component they began to create a clone of the unix operating system, called GNU for GNU's Not Unix
- 1991: Linus Torvalds wrote an operating system kernel calling Linux.
- 1992: Linux was integrated with the rest of GNU project and the GNU/Linux.

Free as in Free Speech, not Free as in Free Beer

Software needs to Free:

- The freedom to run the program as you wish, for any purpose .
- The freedom to study how the program works, and change it so it does your computing as you wish
- The freedom to re-distribute copies so you can help your neighbor
- The freedom to distribute copies of your modified versions to others

FOSS Today

- 91.4% of Supercomputer Runs Linux
- The most popular Mobile OS runs on Open source software
- Silicon Valley and Startups run on FOSS
 - Google, Facebook, Twitter and many others ship Open Source software
 - Google search open sourced their core Machine Learning library, TensorFlow
 - Uber uses requests, an open source Python library
 - Facebook developed Hive
 - Popular frontend frameworks are foss; AngularJS (Google), ReactJS (Facebook)...
 - All popular programming languages (Python, C++, ...) are developed as OSS
- “Given enough eyeballs, all bugs are shallow” -- Eric S. Raymond

Additional Readings

- Free Software, Free Society: Richard Matthew Stallman
- The Cathedral and the Bazaar: Eric S. Raymond



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How to select Organizations



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What's the ideal way

- Browse through the organizations and their projects (200 approx)
- Boil the list down to 50 orgs in 1st iteration just by looking through the project description and technology used.
- Go through 50 orgs in a little detail, by looking at their projects, no. of selections in past year etc., and cut the list to 7-8.
- Finally, visit these 7-8 orgs' communication channel and interact with the community. See your chances of getting in, talk to KGP seniors and boil this down to 2.
- Select 1 after the final org list is out.
- Note that you can have upto a total of 3 proposal in same or different orgs.
- Timeline



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Demo- How to search projects.

A few tips that will come in handy!

- Use archives to see which orgs get selected every year.
- Choose projects which are at the intersection of your field and computer science. You always get a head start.
- It is advisable to look through the programming language organizations selected such as Python Software Foundation, R Foundation and Julia as these have projects from diverse fields such as mathematics, finance, physics, biotechnology, chemistry etc.
- **Do not choose University orgs.**
- Avoid orgs solely related to ML,DL or AI (unless you are an expert in the field). (usually MS/PHD students are preferred)



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| | |
|----------------|--|
| Finance | R, Python |
| Biotechnology | BioJS, cBioPortal, e!, NUMFOCUS Global alliance for genomics, Open Genome Informatics, Open Bioinformatics Foundation |
| Geoinformatics | 52°North Initiative, OSGeo |
| Chemistry | Open Chemistry |
| Mathematics | Sage Mathematics, ASCEND, Scilab, R, Gambit(Game Theory), cvxpy, Julia, SymPy, NUMFOCUS |



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| | |
|-----------------------|-------------------------|
| Astronomy | OpenAstronomy |
| Electronics | beagleboard.org |
| Electrophysiology | Open Ephys |
| Physics | JuliaQuantum, Python |
| Social/Communications | CiviCRM, Berkman Centre |

After selecting an org?

- **Interact with the community!** (VERY Important).
- Start solving some beginner level issues. Go through the issue tracker of the repo. Generally, orgs require you to solve certain number of issues for your proposal to get accepted.
- As soon as the final org list is out, choose a project and start writing your proposal. Keep discussing with your mentors. Writing a good proposal can take a month.
- Sample Proposal
- After submitting your proposal, don't disappear. This is the time when they are reviewing your proposals, hence be active in the irc channel, and keep trying to fix issues to create a good impression.



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DO's and DON'Ts

DON'Ts

- Don't be vague
- Don't ask generic questions

But

- Don't hesitate.

DON'Ts

- Don't expect instantaneous replies.
- Don't personally mail or DM the mentors.
- Don't write follow up comments if you don't get a reply.

Why?

- They are busy people.
- They are nice people.

DON'Ts

“Dear Sir”

“May I ask a question?”

Do not ask to ask.

Don't try to undermine other applicants, at-least
seem helpful ;)

DOs

Being persistent is the key.

Be active on slack, irc, gitter, google groups etc.
(Make yourself visible)

Research your questions thoroughly.

DOs

If you don't get an answer to a coding specific question, try other platforms like StackOverflow.

Helping others = Getting help for yourself!

Q&A

(Live Demo)

Open

<https://github.com/OrkoHunter/gsoc-FAQs>

Or

v.ht/gsocfaq (Very Short link)

- Click on **Watch** button on the top, to receive emails.
- Read through the **README** completely
- Create a new **Issue** if you have have a question which is not in the README

Recommended materials:

- Official student guide by Google
- Unofficial GSoC FAQs by Himanshu Mishra(MA'19): <https://github.com/OrkoHunter/gsoc-FAQs>
- Dr. Chris Rackauckas (MIT), Julia - [Tips for your GSoC application](#)
- GSOC: HOW? THIS? THAT? at <https://thealphadollar.me/experience/2018/12/03/how-i-prepared-for-gsoc-18.html>

Programs similar to GSoC

Checkout

<https://github.com/tapasweni-pathak/SOC-Programs>

Women in Community

- Rails Girls Summer of Code
- Outreachy

SOC-Programs

issues 10 open forks 402 stars 1.5k license MIT  Open-Source-Programs

| Name | Stipend | Timeline |
|---|---------|--------------------------|
| Season of Docs | Yes | timeline |
| Season of KDE | No | timeline |
| OWASP SOC | Yes | timeline |
| Mozilla Winter of Security | No | timeline |
| Outreachy | Yes | timeline |
| RGSOC | Yes | timeline |
| Tweag I/O Summer Internship | Yes | timeline |
| TOR Summer of Privacy | Yes | timeline |
| GSoC | Yes | timeline |
| SOCIS | Yes | timeline |
| Linux Foundation Networking Internships | Yes | timeline |
| The X.Org Endless Vacation of Code (EVoC) | Yes | timeline |
| DataONE Summer Internship Programme | Yes* | timeline |
| Julia Summer of Code | Yes | timeline |
| OWASP Code Sprint | Yes | timeline |
| Free Software Foundation Internship | No | timeline |
| Radare Summer of Code | Yes | timeline |

Things that you don't need to be for getting selected for GSoC

- Dassi.
- Student of CSE Dept.
- Competitive Coder.
- Expert level programmer.

GSoC History from IIT Kharagpur

2015 - 8

2016 - 15

2017 - 31

2018 - 22

2019 - 19

KGP in GSoC

2019-19

Schools with the most accepted students for GSoC 2019:

| University | # of Accepted Students |
|---|------------------------|
| Indian Institute of Technology, Roorkee | 48 |
| International Institute of Information Technology - Hyderabad | 29 |
| Birla Institute of Technology and Science, Pilani (BITS Pilani) | 27 |
| Guru Gobind Singh Indraprastha University (GGSIPU Dwarka) | 20 |
| Indian Institute of Technology, Kanpur | 19 |
| Indian Institute of Technology, Kharagpur | 19 |
| Amrita University / Amrita Vishwa Vidyapeetham | 14 |
| Delhi Technological University | 11 |
| Indian Institute of Technology, Bombay | 11 |
| Indraprastha Institute of Information and Technology, New Delhi | 11 |

2017 - 31

Top 10 schools by students accepted for GSoC 2017

| University Name | Country | Accepted Students |
|---|-----------|-------------------|
| International Institute of Information Technology, Hyderabad | India | 39 |
| Birla Institute of Technology and Science, Pilani (BITS Pilani) | India | 37 |
| Indian Institute of Technology, Kharagpur | India | 31 |
| University of Moratuwa | Sri Lanka | 24 |
| Delhi Technological University | India | 23 |
| Birla Institute of Technology and Science Pilani, Goa Campus | India | 18 |
| Indian Institute of Technology, Roorkee | India | 18 |
| Indian Institute of Technology, Bombay | India | 15 |
| LNM Institute of Information Technology | India | 15 |
| TU Munich/Technische Universität München | Germany | 14 |

Proposal Drafting Advice

- Look at previous year's proposals.
- Often orgs and mentors have a specific set of question and expectations, do include those in the proposal.
- Basic structure includes
 - About me
 - Previous relevant open source contribs
 - Why am I suitable for this project, why I want to work on this project
(The above stuff should only be 20-30 percent of proposal)
Sometimes orgs have page limit, stick to it.
- The majority of the proposal should be explaining the project -
Motivation, Plan, Execution, Timeline (Do not skip out tests, blogs, docs)
- Mention other commitments, if any.

<https://docs.google.com/document/d/1c64CRQsm1iZPFaVOVhip7nHbB5UzAkePpnGelvTRvQI/edit?usp=sharing>

✨ GSoC Stories ✨

Volunteers to contact

- https://wiki.metakgp.org/w/Google_Summer_of_Code

Q&A (from responses)

Thank you !

Provide your feedback at
cutt.ly/gsoc_koss_feedback