Sophomore Internship Session

Why take up an Intern in 2nd year?

Why take up on Intern in 2nd year?

Work Experience

Time to explore

Resume Point

~~3 month summer is boring~~

Travel

~~Stipend~~

Experience of living on your own

FOMO?

Getting an intern is not necessary!

Self projects

Coding Practice

SoC/SoS/LearnerSpace

Workshops

Relaxxxxx

etc

Resume Making

Soham Dahane

Academic Section

- **Ranks** in all well known exams. Can write **percentile** if you want instead (in case the rank is large). Advisable to mention number of people who wrote the exam.
- Mention **Olympiads (especially for research)**, mention how many people were selected till where you reached.
- Mention APs, mention Dept Rank/Institute Rank, advisable to mention numbers to highlight significance
- Mention any external scholarships or awards received for academics - mention numbers
- Can mention high ACT and SAT scores

Projects

- Course Projects (Even Labs or Assignments)
- WiDS/SoC/SoS/Learner Space etc. (any Insti prog. where you got certif.)
- Self Projects - even if done in high school, some sort of minimal proof required (Github repo, report etc.)
- Min 2 and Max 3-4 points per project
- Order matters - importance and chronological
- Try to highlight important projects (3-5 Key Projects based on your preferred field, project complexity, and then other projects)
- Mention what you learned and things about which you can have an intellectual discussion
- Any previous work experience, research work (RnD, SURP etc)
- Prefer ML, development projects for corporate

Other Sections

- PoRs - Mention more than just that you hold a post. State what you have done as part of your post, try to mention numbers
- TAship - Mention course and Prof as well what role you play for the students in a line with numbers (such as batch size).
- Tech Skills/Courses Undertaken - Mention any languages you are comfortable with, the courses you took should also be mentioned. Manage space well and **reduce the sizes of these sections if you don't have space**. Can be skipped.
- Extra Curricular - Mention what differentiates you if possible - won a tournament/reached a certain level is better than active player. Tournament can be of any type for eg. sports, cultural, quizzing
- Work Experience if you have any (past internships)
- Publications - In case you're pro, mention formal research papers at the very beginning.

Reviewing

- First get resume reviewed by friends to fish out formatting/grammatical/spelling errors. It saves time.
- **Get Resume reviewed by at least 3 seniors including DAMP mentor.**
- The way this works is you change resume after each verification and get the updated one sent back for further review
- Can upload resume to a drive and senior can add comments right there
- Ensure you get resume points verified from your verifiers (before submitting on the portal) - they may not agree to what you have written later.

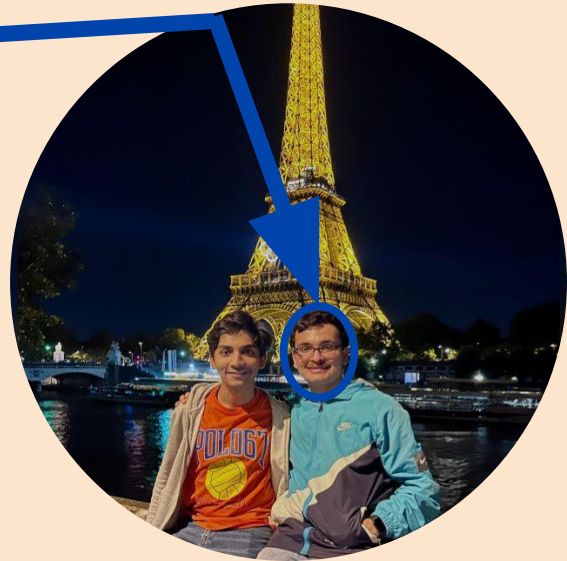
Miscellaneous

- White Spaces minimized - frame lines to fit the page width(Can use resume repository for examples)
- No full stops.
- Action verbs
- Bold Numbers and Key words - not everything
- Be concise and formal
- Focus on 2 Page resume
- ChatGPT is your friend

Don’t Rush The Decision

some thoughts on getting summer internships as an IITB CSE sophie

- Satyankar Chandra



Research or Corporate? 🫠

- Background - 2nd Year: TUB (Wireless Comms.); 3rd Year: Tower
- Reason for research in 2nd Year - Wanted to get research experience, travel Europe with friends
- Research Domain - Somewhat in EE side
- Intern Work Outcome - Low; Intern Learnings - Many
- Would recommend? - Perhaps No

Go for research intern

1. Passionate about research
2. Unsure of what to do and want to give research a try (good idea in 2nd year coz low risk)
3. Travel internationally with your friends and have fun (slightly weird motives tho)

Go for corporate intern

1. Passionate about dev
2. Want to work in same company/domain in the 3rd year as well
3. Want to explore corporate culture

- Everyone here is very talented and in decent demand (as much as possible for an Indian 2nd year UG)
- PT Cell might not be able to provide enough opportunities for all
- The opportunities need to be deeply evaluated since they might be popular but not good (for you)
- Need to be aware of all the sources for getting opportunities
- Need to know how to judge those opportunities (more on this)

How to know if an intern is a good fit?

1. Alignment with your long term goals
2. Alignment with your fields of interest
3. Reviews from seniors (imp. to get both positive and negative ones)
4. For research - quality of past publications, some rankings, fit with professor, intern structure and future possibilities etc
5. For corporate - company reputation, skill development, future in same/similar domain, intern structure etc

Some (more) factors to keep in mind

Common (everyone knows)

- Domain
- Learning Opportunities
- Pay
- Location / Culture
- Workload
- Reviews
- Friends pref

Uncommon (people forget)

- Interactions (past/ongoing) with that organization (company/uni)
- Free time available
- Impact on 3rd Year intern prep
- Will it have a positive influence on your CV?
- Chance to upskill in other things
- Networking Opportunities

Conclusion

- Try to control FOMO
- Patience and persistence are the key to get good intern
- Don’t take decisions in a hurry
- No need to sign all IAFs blindly
- Don’t undersell yourself
- Don’t take too much stress
- 2nd year intern doesn’t decide your future

Univs last year

- TUB
- NUS
- INRIA
- IISC
- …

Companies Last Year

- Franklin Templeton
- Google Step
- Amazon
- Uber Star
- ASAPP
- Parahit Technologies
- Attentions.ai
- …

Experiences

Univs

Brian Mackwan - TUB

Pratik Sahoo - NUS

Varshith - IITB

Sharvanee Sonawane- IISc

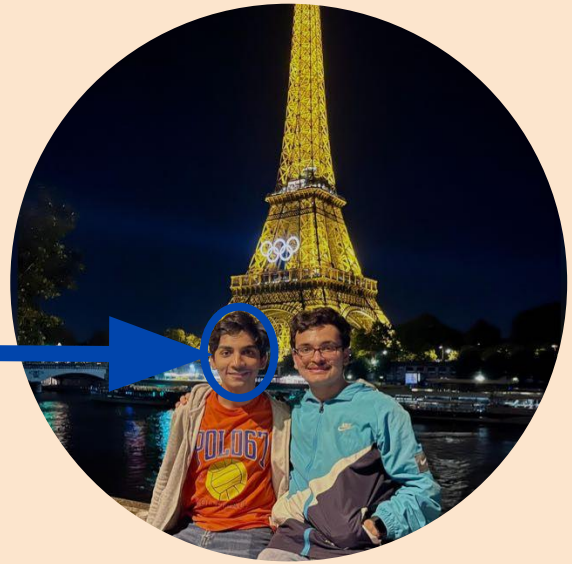
Companies

Anirudh Garg - FT

Vignesh Badisa - Google

Saksham Rathi - Amazon

TUB: Brian



Selection Criteria

- Resume shortlist (keywords checked from projects)
- Shortlist has some aspects of luck, CPI, keyword/interest check
- Interview with a prof from TUB
(might include other profs/TA/supervisors)
- Ensure that you are well versed with whatever projects you have put on your resume and can answer any supplementary questions on them confidently
- Soft skills are always a plus point to some extent
- Pure CS + mixed profiles both open

My Experience

Resume shortlist & Interview

Work Profiles

- Aditya Agrawal
  Online Algorithms (Algorithms)
- Aditya Singh
  Motion Estimation of Antenna (THz Technologies)
- Anilesh Bansal
  Approximation Algorithms in a Geometric Setting (Algorithms)
- Arihant Vashista
  Approximation Algorithms in a Geometric Setting (Algorithms)
- Bhavya Sri Kottana
  Simulation and Analysis of Network Performance (Embedded Systems)

Work Profiles

- Brian Mackwan
  Key-point Estimation using RCNNs
  (Medical Image Computing and Signal Processing)
- Chaitanya Garg
  Energy Efficiency Analysis of SRLDPC Codes (Wireless Communication)
- Rijul Bhat
  Layer Identification and Ring Resonator Simulations in MoS2
- Rishabh Raj Prakash
  Automobile Accident Visualization and Simulation
  (Medical Image Computing and Signal Processing)
- Satyankar Chandra
  Measuring Energy Efficiency of OTFS Systems (Wireless Communication)

Why?

- Exposure to research to realise interests and give it a chance in general before you head over to the corporate interns/jobs 3rd yr onwards
- International exposure
  (plus point if anyone is interested in non-core in 3rd yr)
  as well as a lovely experience of living independently in another country
- If you do end up working well, worst case scenario – LOR
  and best case scenario- Paper
- Positive networking for future opportunities and projects
- If you are interested in following further studies or a path in academia, it is a good opportunity especially for you
- Funded EU trip so there is lots to explore ٩(◕‿◕)۶

Why Not?

- Won’t give any added benefits as such if you do plan on going into a corporate role down the line
- You would need to give some time for your day-to-day work as well as your trips so make sure that you balance that along with your work and third-year intern prep
- You may not really enjoy the project being offered so be aware of the project being offered and if you are interested in some other topic offered by some other intern then you may weigh the benefits and risks of waiting for that instead
- Do not expect that a paper or major breakthrough is bound to come out of the internship since 2-2.5 months are not sufficient for that in most cases and the internship is more focused towards development side


LENA
Laboratory
for Emerging
Nanometrology
6A|B

NUS: Pratik

Selection Criteria

- Resumes that display an interest in theoretical CS/Maths
- CPI and AIR play a big role
- Interview with the professor, asked theoretical questions to check if your logical foundations and grasping power is strong
- Lot of questions based on your resume content

Work Profiles

- Verification of Concurrent Systems: Pratik & Thomas (Left)
- First Order Model Counting: Sanskar & Harsh (Right)

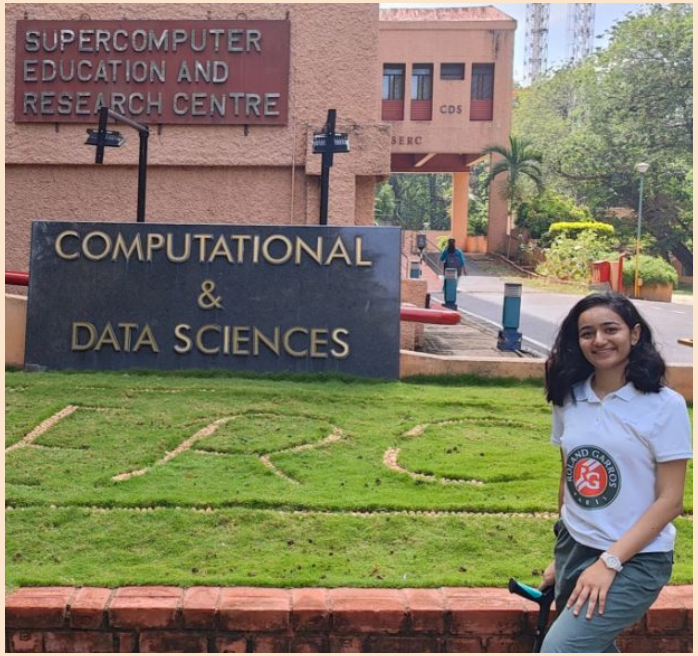
Pros

- No-commitment exposure to research culture and crowd
- Discuss interesting (beyond core syllabus) problems with some very motivated individuals
- Very respectable research team, for those hoping to break into academia
- Maybe get a publication to your name; or an LoR at the least
- Sufficient time outside work to prep for 3rd year internships (along with your co-interns)
- Singapore is a wonderful place to be: well-designed city, easy to roam around, safe, english-speaking and friendly crowd (especially on NUS campus)
- International and professional exposure: as cliche as it sounds, it really makes a difference
- Free summer trip, lot of stuff to do after work hours, East Asia is a very underrated tourist destination

Cons

- For those of you interested in corporate careers (quant or software) down the line, doesn't add much value
- Undergraduates in research teams are often given the grunt work/jobs nobody else wants to do
- Professors will give more attention and interact more with PhDs, you will spend most of your time working alone
- Many of our research efforts hit dead-ends very early, and we lost motivation to work after a while
- If expecting a paper, you will usually end up working for upto 6 months (or even more) after the internship is over
- Accomodation and food in Singapore is expensive, stipend forces some difficult decisions

IISc: Sharvanee



Selection Procedure

- 5 people shortlisted based on resume
- Interview round 1 taken by Research Assistant of the Prof- included introduction, interest domain and questions on multiple ML projects mentioned in the resume
- Interview round 2 taken by Prof- more questions on relevant projects, discussion on approach to Research
- Ensure that you are well versed with whatever projects you have put on your resume and can answer any supplementary questions on them confidently
- Potential departments to apply to : Computational and Data Science (CDS), Computer Science and Automation (CSA)

Experience

- Good exposure to research culture, projects and students, a chance to attend talks by amazing faculties/ researchers (ex from Microsoft Research team) visiting IISc
- Your productivity might depend on your prior knowledge of the research topic
- Gives you a chance to make an early decision on pursuing a career in academia
- VPN access not given to Summer interns so work from home privilege can’t be exploited
- Pretty campus, pleasant weather during Summers and beautiful places to visit make Bangalore an amazing place to spend your holidays (one learns to negotiate with Bangalore auto-walas due to no-meter system xd)

CSE Interns at IISc

- Sharvanee Sonawane (Profile: LLM Research

  Department: Computational and Data Science)
- Varthika Reddy (Profile: System Design for AI accelerators

  Department: Computer Science and Automation)
- Mayank Motwani (Profile: Reinforcement Learning -Stochastic Approximation

  Department: Computer Science and Automation)

IITB: Varshith

- Work details: Prof. Suyash Awate (your 101 teacher :))
  (research domain: Medical image processing)

  Read, Understood and experimented with 2 open source codebases related to CT scan reconstruction and articulated them for future use (right now!)

- General Procedure: Take some elective under proff, can ask for work if you're interested in that domain (See their website). Might take if they have any problem statements (my case), or can create some ~~problems~~ questions (many others). Ask soon enough

Pros (compared to other univ interns)

- No Test, No interview (only interaction matters)
- Can spend a semester before deciding if not sure interested in domain or not
- Ample amount of time for 3rd year intern prep
- Can continue working with same prof as RnD in semesters

Cons (compared to other univ interns)

- ~~No Stipend~~
- No interaction with new people
- Not a new place to explore , also have to stay in same hostel :(
- Less probability of acceptance

Case Study (I’m the subject)

- MIC as an elective in 4th sem (suggested by seniors. Go see Sophomore 101 slides)
- After few weeks classes, felt interesting
- Was interacting well in class and met him at office hours for discussion
- Got the idea of asking (but kept it as an backup plan)
- So didn’t slack in the course (eg: didn’t miss most of the classes)
- PT cell opportunities were decreasing
- Asked him for work during a course project discussion meet
- Responded positively and said to meet after endsems

Work experience

- Went to home for 1 month, worked remotely (all profs may not accept)
- Came back. Actual work started. Meeting weekly once (Gave some suggestions and directions)
- In campus (Nothing much to do). Splitted day into 2 parts, one for intern, other for 3rd intern prep
- Doing in-person helped. Staying on campus helped me prep for 3rd year intern (maybe more than exclusive prep at home)

Other IITB opportunities

- Some profs take paid interns (can get mails)
- Prospace - IITB startup
- ILP - Other startups by IITB alums through Sarc
- (All above can have proper test/interview and stipend)

Others IITB internees

- Hari, Shriram, Geet - Prof. Biswabandan Panda
- Nikil - Prof. Rohit Gurjar
- Kavin, Shreyas - Prospace
- Umesh, Pavan, Charita and many others - ILP (Sarc)

FT: Anirudh

- What recruiters want in the resume -> Resume is not that important for selection but the role you are assigned depends on it. The tiles offered are front end / back end / AIML

- Tests -> Python, numpy, pandas is asked 2-3 days prep is more than enough
  Internet is allowed, generative AI is not
  Can see past year papers

- Interviews -> Pretty chill. Know what is in your resume and what code you wrote, what could be improved

- Work -> Different people had different work. But none had any intellectually stimulating work.
  Coordinating with teams across the globe. Learning about finance

- Benefits -> 3rd year prep, corporate xp, many IITB CSE people go there, Hyderabad food 🫶

Others at FT

- Atharva Bendale
- Ayan Tanwar
- Deeksha Dhiwakar
- Dheeraj Kurukunda
- Ekansh Ravi Shankar
- Kavya Gupta
- Nandan
- Nihar Hingrajia
- Piyush Babar
- Shresth Verma
- Soumitra Darshan Nayak
- Tanishka Kabra
- Vardan Verma
- Ved Danait

Google: Vignesh

- Recruiters look up for : In Fact nothing, the HR mailed me that she didn't have my resume with her and my first interviewer took the interview without resume. But try to put all your relevant projects.
- Roles offered : front end , back end , LLM modelling , DevOps
- Online Test : 3 coding questions (LeetCode : Easy -Medium level)
- Interviews : 2 technical interviews
- Work, General Experience
- Conversion : PIO and PPO
- ~~Benefits~~
- Colleagues and Bangalore
- Some other Seniors : Ananya Kulshreshtha , Ananya Kunisetty , Jahnvi Shaw, Muskaan Jain
- (PS: Google only open for girls, pwd and ews in 2nd year; open for everyone in 3rd year :)

Amazon: Saksham (Corporate Research)

Amazon

- Selection Procedure
- Work
- General Experience
- Benefits

~ Saksham

Alternatives to PT Cell Process

University Apping

- Form your own database of professors working on topics and problems that you find interesting. Multiple ways to do this:
  - Go to csrankings, select the topics that interest you, go to the profs' websites and read up to gauge what they are doing.
  - Directly go to popular conference websites and look for professors in your domain.
- Form a base template for your mails and manage mail sending times according to timezone. They should ideally receive your mail on the morning of a weekday
- Write personalized emails to get better responses (Explain why that prof specifically, what you like about their work)
- Do not get dejected/anxious if you initially don't get replies. It is common to not get a reply due to a variety of reasons.
- Attach your resume as a google drive link, not as a pdf - It directly goes to spam folder otherwise (sometimes). Contact seniors for more such tips :)

Resources for Univ Apping

- https://drive.google.com/drive/folders/1qzF5AFqIuLmUc1C5R83WRGKI-E664oNH
  Core Internship Booklet, contains a wide list of Internship Programs, summer schools among other things.
- https://docs.google.com/spreadsheets/d/1MtKm6AFkHxh_niUaN6fdUnaNoyQCIRk1VM3qvpcD6ds/edit?gid=0#gid=0
  Research Intern Programs Sheet
- https://github.com/himahuja/Research-Internships-for-Undergraduates
  A repo organised by a senior, contains list of programs

Other Resources

- Some useful points regarding Univ Apping and resources. Please go through this if you are Apping.
  https://drive.google.com/file/d/1vqQZY_IwM0DePIKzaVB9Ul8He_jDpMu8/view?usp=sharing

- Great Apping Advice by Arhaan
  https://docs.google.com/document/u/0/d/1DNySJpQ0Aeg2FjCXiL38T-De0Wk4s8BG2mAnvhHVOXU/mobilebasic

- An example of personal database.(This one is for TCS leaning towards Automata)
  https://docs.google.com/spreadsheets/d/1ogqq4rsWfay7nSUkpRO7Hi7f8VZINcdUmyfKfN_o5qY/edit?gid=0#gid=0

- Seniors(best resource) - Approach seniors who got Research internship through Apping last year for their experience, resources and tips. Rankings matter very less compared to the work done and experience by previous interns.

Corporate Apping

- Start by forming a database of companies you wish to apply to (focus more on startups)
  - Look for the companies your seniors might have interned in previous years
  - Find opportunities through linkedin, glassdoor, youtube channels for internship opportunities (for example: arsh goyal)
- In the database, include contacts of HR and other people working there (around 5-6 preferred) and their mail IDs, you can find these on their linkedin accounts
- The next step is to update your linkedin account, add profile picture, include your projects, courses done, achievements and experiences (if any), expand your network
- Set up alerts on Linkedin so that you get notified whenever an internship opportunity is opened
- Some companies have dedicated summer internship/mentorship programmes, find them on their website and apply for them as well (go through the eligibility criteria)

Corporate Apping

- You can contact people via linkedin or mail
  - linkedin: Keep the message short, only introduction and why you are interested to work in that particular company, attach your resume (in form of drive link)
  - Mail: Include resume (drive link again), can also add transcript if you wish
  - In the body of the mail, add any relevant projects you have done in that particular profile for which you are apping, answer why you want to work with that company and why that profile
- Edit your resume, add your linkedin profile link, remove irrelevant stuff
- For corporate apping, one page resume is preferred (make different resumes for different profiles)
- Sample Database: https://drive.google.com/file/d/1SUyUf_mLMmFZDKoFdLbSqkLrE3hA0X5a/view?usp=sharing

ICs Speak:

Rashmita and John

Alternatives to Internships

- Open Source Programs(GSoC, LFX, SOB)
- MS Engage
- Github Octernship
- Project under Professors (even other IITs, IISC)
- SURP
- Projects offered by institute clubs
- TrustLab
- ILP (SARC)
- ProSpace
- E-CeLL FinCoF

FAQs

- Should I go for Corporate Intern or Research Internship?
- How many people do get an Internship in 2nd Year?
- What factors matter for acceptance? (CPI, Projects etc.)
- How will getting/not getting a 2nd Year intern affect my 3rd Year intern application?
- How the resumes get filtered, will we give assessment tests in the selection process ?
- What kinda questions are asked in interviews ?
- How to/Can I manage 3rd year intern preparation with 2nd year intern?

Here is a list of the Internships and summer projects taken up by your seniors for summer ‘24
https://docs.google.com/spreadsheets/d/1sTD5h88a9Q123TqeWDch3lRzLfdgaj7T2R8GffKye4w/edit?usp=sharing

Whatever your target/queries are, you can approach seniors by going through this sheet :)


Thank You!