Hi

A few general things ..

- Please do not waste the holidays after sem
  - Interns
  - Research under prof
  - Projects under technical body
  - Self Projects / Learning based projects
- While the sem is going on - make sure to do anything that you can add to your resume (TAship,self projects, a course on edx or coursera, open source etc)
- Make sure you practice a lot of coding (any 1 language with good proficiency would work for ex C++ , C or Python) 2 languages is a plus
- Get familiarized with Git/ Github (maybe not for hardware folks)
- Try reading Research papers (algorithms, robotics, ML whatever) [2 min papers YT]
- Medium, towardsdatascience, stackoverflow,geeksforgeeks etc
- Twitter’s tech community / Podcasts / YT (keep yourself updated)

Software Devs

- Competitive Programming (ratings matter)
  - CF
  - Codechef
- DSA (mostly interview sorta problems)
  - Leetcode
  - Interviewbit
  - QnA on GFG
- Open source
  - Look up hacktoberfest
- GSOC - MS Engage - Kickstart - Hashcode - Codejam
- Metaverse hackathons , Google Girl Hackathon , GSSoC etc
- All hackathon/ competition announcements usually made on social media
- A lot of places to apply, almost all firms have a position
- CS 347 , CS 224 , CS 228 , CS 744

Data Sciences / ML / DL / RL / AI

- Start with basics of ML (mostly asked in all interviews)
- Projects matter (complexity of projects imp)
- Do not take the black box approach
- Research Papers
- PyTorch - TF basics is a must
- Be good with libraries and documentation reading
- Reading and fine tuning a code is a good skill to have
- Always remember DL builds on top of ML and only asked in advanced interviews
- Exploration vs exploitation (too early to decide for sophies)
- Books over YT videos for ML and vice versa for DL
- CS 419, GNR 638 , CS 747 (bit advanced), CS 626
- Where to apply? (profs, referrals and a zillion emails)
- Make sure to prepare your projects well before interviews

Robotics

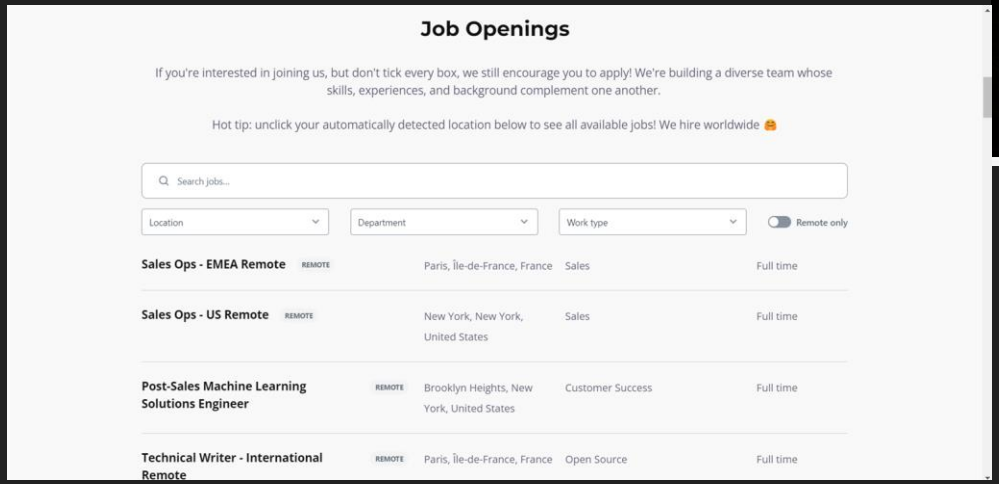
- Join a tech team (best way to start)
- ERC
- Learn ROS , SLAM , GAZEBO etc from Udemy or Coursera or YT
- Mostly coded in C++ or Python
- Lots of Univ Interns but not so many industry interns
- Projects under prof would be a good start
- Syscon Minor maybe

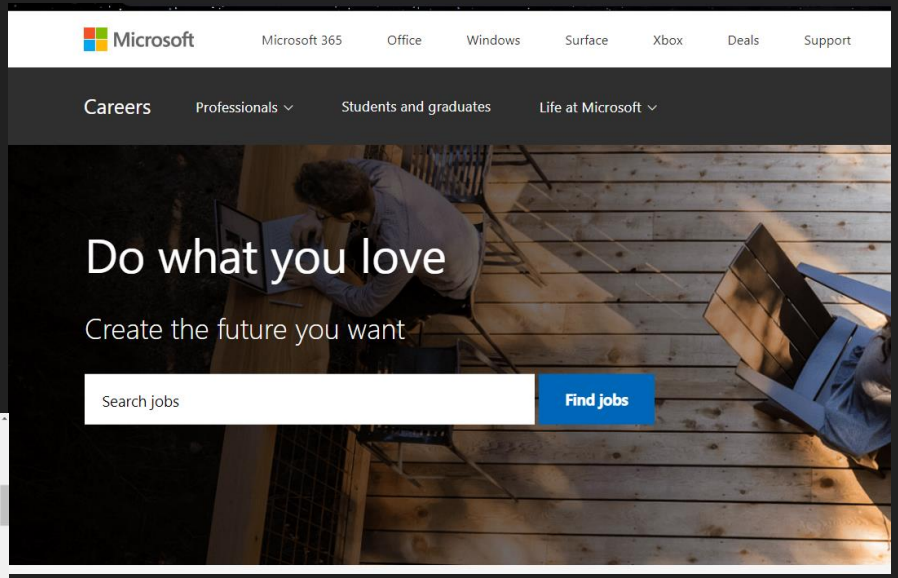
Hardware

- Elec Minor
- Less coding more mathematical
- Tech Teams (subsystems eng)

Resources

- Careers page
- Interview Q , Interns , New grad pos
- Internshala
- Linkedin





Research interns (mostly ML and Robotics)

Welcome | Research › | Publications › | Students | Teaching ›

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WE ARE HIRING!! (Apply Here!!)
Research Scientist and Postdoc positions at ASAPP Research in Ithaca!!
Find out more about ASAPP here or here. If you have a PhD with multiple publications in top ML/NLP/CV venues, please shoot me an email.
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My CS4780 Machine Learning for Intelligent Systems class is now on Youtube. If you are interested in more, you can earn an official Machine Learning Certificate through eCornell with especially designed problem sheets and high quality videos (with fancy 3D animations).

Bio: Kilian Weinberger is a Professor in the Department of Computer Science at Cornell University. He received his Ph.D. from the University of Pennsylvania in Machine Learning under the supervision of Lawrence Saul and his undergraduate degree in Mathematics and Computing from the University of Oxford. During his career he has won several best paper awards at ICML (2004), CVPR (2004, 2017), AISTATS (2005) and KDD (2014, runner-up award). In 2011 he was awarded the Outstanding AAAI Senior Program Chair Award and in 2012 he received an NSF CAREER award. He was elected co-Program Chair for ICML 2016 and for AAAI 2018 and became president elect of the ICML society in 2021. In 2016 he was the recipient of the Daniel M Lazar '29 Excellence in Teaching Award and in 2021

Kilian Q. Weinberger

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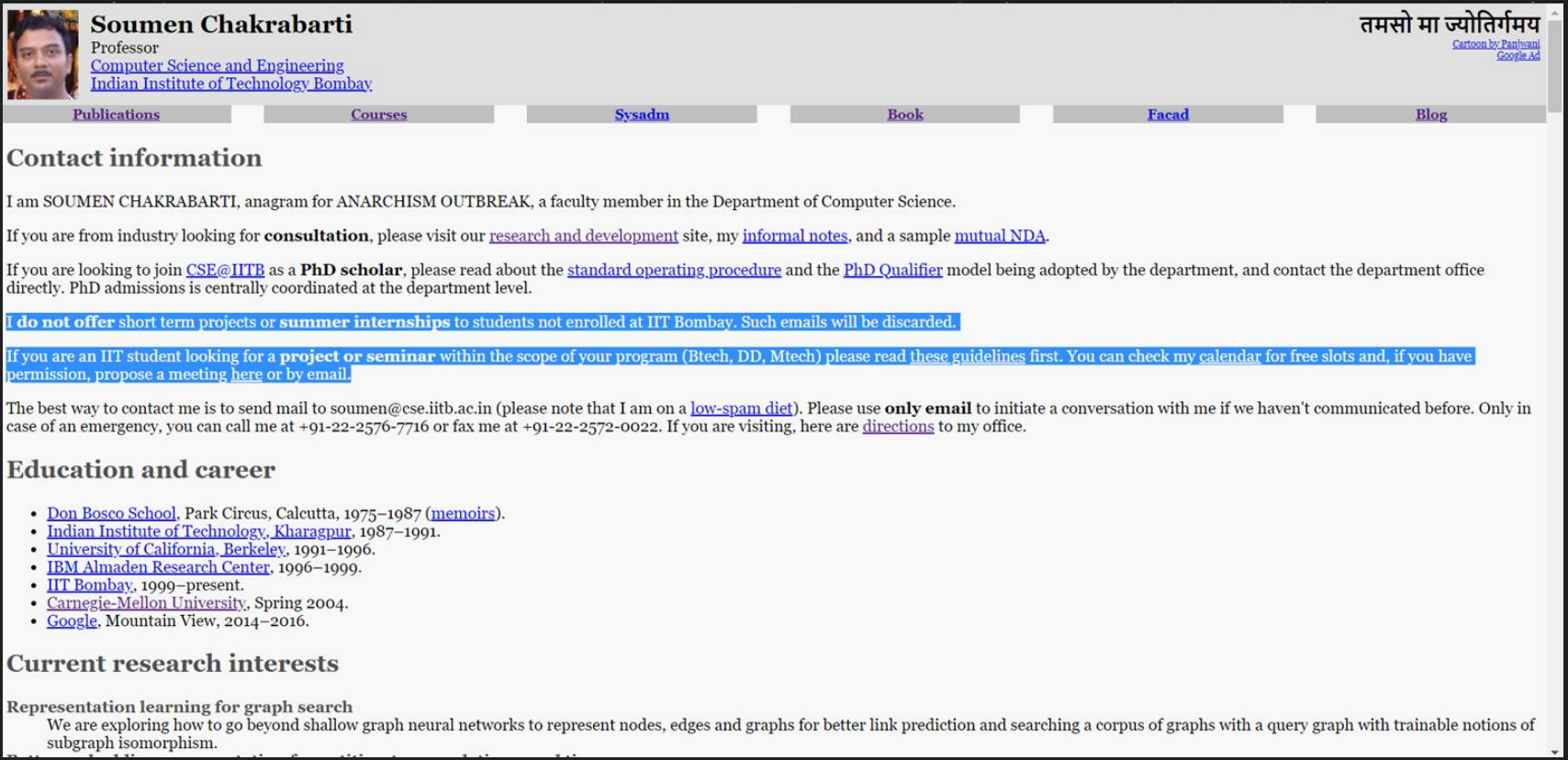
Research interns (mostly ML and Robotics)



Soumen Chakrabarti
Professor
Computer Science and Engineering
Indian Institute of Technology Bombay

तमसो मा ज्योतिर्गमय
Cartoon by Panjwani Google Ad

Publications | Courses | Sysadm | Book | Facad | Blog

Contact information

I am SOUMEN CHAKRABARTI, anagram for ANARCHISM OUTBREAK, a faculty member in the Department of Computer Science.

If you are from industry looking for **consultation**, please visit our research and development site, my informal notes, and a sample mutual NDA.

If you are looking to join CSE@IITB as a **PhD scholar**, please read about the standard operating procedure and the PhD Qualifier model being adopted by the department, and contact the department office directly. PhD admissions is centrally coordinated at the department level.

I **do not offer** short term projects or **summer internships** to students not enrolled at IIT Bombay. Such emails will be discarded.

If you are an IIT student looking for a **project or seminar** within the scope of your program (Btech, DD, Mtech) please read these guidelines first. You can check my calendar for free slots and, if you have permission, propose a meeting here or by email.

The best way to contact me is to send mail to soumen@cse.iitb.ac.in (please note that I am on a low-spam diet). Please use **only email** to initiate a conversation with me if we haven't communicated before. Only in case of an emergency, you can call me at +91-22-2576-7716 or fax me at +91-22-2572-0022. If you are visiting, here are directions to my office.

Education and career

- Don Bosco School, Park Circus, Calcutta, 1975–1987 (memoirs).
- Indian Institute of Technology, Kharagpur, 1987–1991.
- University of California, Berkeley, 1991–1996.
- IBM Almaden Research Center, 1996–1999.
- IIT Bombay, 1999–present.
- Carnegie-Mellon University, Spring 2004.
- Google, Mountain View, 2014–2016.

Current research interests

Representation learning for graph search
We are exploring how to go beyond shallow graph neural networks to represent nodes, edges and graphs for better link prediction and searching a corpus of graphs with a query graph with trainable notions of subgraph isomorphism.

How to write a mail

- Be short, precise , polite.
- Straight to the point no BS
- Cover your general areas of interest, not the details as they are already in your resume
- Emphasize on how what they are doing aligns with your future goals and how you’ll be able to help them with your skill set
- Do not forget to attach your resume (public)
- Write a lot of mails

Example Mail

Dear Mr. Hartless,

My name is Chen Yi Ling and I'm emailing you to ask about a potential interning opportunity at your company. I'm currently a student at Islander University studying sustainable energy. I have a lot of experience and enthusiasm for the subject , and have done a lot of projects in the field.Your company's work on renewable energy sources is something I've always felt passion for and would love to learn more about. Through this internship I hope to boost my career as a researcher in the energy field and that would also help me for my masters. I'd appreciate any information you can provide on how to get involved with your company. Please let me know if you have any internships or other opportunities available. I am attaching my resume with this email with details about my work.

Thank you so much for your time. I really look forward to hearing from you.

Yi Ling

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Example Cover letter

As part of my Master's Thesis, I am working on the goal of 'Making AI funny'. The inspiration behind this has been my interest in standup comedy. I have realized the great benefits such a system can have on the way humans interact with technology. I have published a paper on this topic in EMNLP 2021, and another paper is under review at ACL 2022. I believe my experience of working in NLP and ASR for 1.5 years and publishing in top conferences prepares me for the residency. Working with CFILT, IIT Bombay, and Peng Lab, UCLA has taught me to work with people from different backgrounds. I am driven to solve this problem while working at Hugginface. I'll be really happy to work on other problems around this area.

I am a fan and superuser of Hugginface. I love what it has done for the democratization of ML research. If not for HF, my research work would have taken at least 10x longer. I strongly agree with Clement's view that NLP is the most transformational tech of the decade. Working at the best ML company in the world, building products that the entire NLP and AI community uses will be extremely fun and a great chance to learn. I am bullish on HF's future, and being part of the early team will be a life-changing career opportunity. I am really excited about applying for this role.

Example SOP

As a technological optimist, I am a firm believer in the potential of technological advancements to solve most if not all of our hardships and problems. TBeing exposed to the daily struggles of life in rural India,, I faced, have always been motivated me to find ways to mitigate them by using simple and innovative technologies and thus life-changing advances in technology has always fascinated me. I strongly believe that a detailed study for the realization of the Internet of Things, the concept of the virtual world and portable devices where Micro Electro Mechanical (MEMS) Sensors, robotics, and microelectronics would play a paramount role in making the world a smarter and more sustainable habitat. Spurred with desire to explore the exciting avenues in the field of CMOS compatible MEMS, I present my application for graduate admission to the Department of Mechanical Engineering, Stanford University. I believe my undergraduate and graduate degrees from top ranked schools in India and unique research experience in Materials Development, Micromechanics and Microelectronics have strongly prepared me to make substantial contribution in my upcoming graduate studies.

Pursuing a Ph.D. at this juncture shall assist me substantially in structuring a research profile that would allow for my association with a reputed company or research organization which develops products to make human lives easier. Interacting with seasoned faculties and accessing to state of the art facilities at your institution shall boost my chances of gaining diverse research opportunities. With the skills I have, I can help secure the optimization of the fabrication process flow for devices. I am confident that my expertise in fabrication, the design of experiments and characterization can find precision utility in the semiconductor or MEMS industry. After acquiring the inputs and envisaging the hurdles faced in this industry I would lie to start my own company conceptualizing design and realizing MEMS-based products in the field of biotechnology, Internet of Things, smart electronic devices and wearables. I hope I am deemed suitable to be a part of your scholastic community.

A few more things

- IT IS TOTALLY FINE TO NOT GET AN INTERN !
- Ask a lot of questions !