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Please read the following if you are a student at [cse@iitg](mailto:cse@iitg) and looking for an advisor to do an undergrad, Masters, or doctoral thesis work.

- my research interests are in the design of data structures and algorithms

mainly for problems from [computational geometry](#)

this involves

- computing optimal or approximate solutions  
with improved worst-case time and workspace complexities
- accommodating efficient querying
- handling dynamic inputs

- prereqs for me to supervise your thesis

- must have experienced at least one course offered by me
- liking for the contents of core courses I regularly offer  
not necessarily have taken either of the electives I offer
- willing to put in sincere efforts
- enthusiastic to find newer solutions
- have good perseverance
- prefers to work independently
- attitude to learn and contribute

- from my side

- suggesting appealing problems to attempt
- allocating enough time to meet
- exploring with the student
- closely coordinating

- typical schedule of work

- learning selected prereq topics
- focused and short literature survey
- defining a couple of problems

- attempting to find solutions while varying problems where needed  
most of the time obviously goes for this
- proof writing once any solution is found
- each week two meetings, each is for about 45-minutes
- giving presentations all through
- building the report incrementally
- writing publishable quality final thesis, so that it is ready to be submitted to a journal

undergrad and Masters students may start working early (say by June) so that to take a break during the campus placement season (mid October through early December)

- articles co-authored with students I advised are [here](#)

preliminary works of each such student first got presented at one to two conferences

- factors that could motivate you to work under my supervision
  - problems are hard but there is a great scope for learning by collaborating with me
  - work is foundational and interesting: after all, it is designing data structures and algorithms
  - you won't be working in a large team, would be directly interacting with me
  - writing thesis on a theoretical problem gives an excellent exposure to research
  - a thesis on algorithms is the most respected, both in academia and in industry
- email me if you have any further queries or want to meet