Please read the following if you are a student of 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 interested in some of the fundamental problems from the following subareas of computational geometry: shoretest paths, networks, visibility

  a few popular applications of these are listed here

  this involves

  - computing optimal or approximate solutions

    with improved worst-case time and workspace complexities

  - accommodating efficient querying

  - handling dynamic inputs

- prereqs to get advised

  - must have experienced at least one course offered by me

  - liking for the contents of core courses I regularly offer

  - not necessary to have background in computational geometry

    but may have read a couple of chapters from any textbook, to check whether the area interests

  - willing to put in sincere efforts

  - enthusiastic to find newer solutions

  - have good perseverance

  - 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 standard topics from a course on computational geometry

- focused and short literature survey of the problem domain

- defining a couple of problems

- attempting to find solutions while varying problems where needed
  (most of your 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)

- journal articles produced by students I advised are accessible from 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