

## Identity Information

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- *Country.* **India**
- *Institution.* **BITS-PILANI, HYDERABAD CAMPUS.**
- *Advisor.* (if applicable). **I can talk to my prof , if it is okay with the ns3 organization.**

## Background

What experience or training do you have that makes you best suited to this project?

**I have done several projects in networking. I have taken course on Computer Networks. I have also done course on Graph Theory.**

### Relevant courses:

- 1) **Computer Networks.**
- 2) **Graph Theory**
- 3) **Discrete Mathematics**
- 4) **Data Structure And Algorithms**
- 5) **2 Computer Oriented Project in Networks.**

### Projects on Networks:

- 1) **Routing Protocols Over Manets :- I have worked on Adhoc-On-Demand (AODV) routing protocol. I used the queuing theory to improve the routing in AODV. I carried out the simulation in Nctuns( c++).**
- 2) **Improved Object Lookup in Unstructured Peer to Peer Network Overlay- In this, I built a peer to peer Network in C using socket Programming and used the heuristics for improved object lookup.**
- 3) **Solved the traffic engineer problem, at National Level Technical Fest, for which I received the first prize at APOGEE-2009.**

- 4) I worked on a Study Oriented Project, Detecting Bots in Online Games in which I emphasize on using waypoints in online games.**
  
- 5) Currently, I am doing thesis of 6 months in Declarative Networking from School Of Computing, National University Of Singapore, Singapore.**

What is your previous experience with ns-3?

- 1) Currently I am using rapidnet in my thesis on declarative networking, which works on ns3.**
- 2) I have assisted my friend in his project on Wireless Sensor Network, in which I helped in working on ns2.**

## **Education**

Include your academic or professional background related to data networking, as well as any software experience with C++ and/or Python.

- a) I am currently working on Declarative Networking on rapidnet as my thesis topic at school of computing, National University Of Singapore, Singapore.**
- b) I have built a peer to peer overlay in C and Python using Socket Programing.**
- c) I have built a shell, like a bash shell in C as part of my Operating Systems Course Assignment.**
- d) I have done various projects on C and C++.**

In which school program are you currently enrolled at and what is your specialty there?

**Currently I am working as a Research Assistant at School Of Computing, NUS, Singapore.**

**I am fourth year undergraduate in Information Systems at BITS-PILANI, Hyderabad Campus.**

**I am solely concentrated on Networks and in future wants to pursue Masters and Phd in Networks.**

When did you started your current studies?

**I started my undergraduate school in 2008.**

## **Work**

Be sure to denote any work experience you have in relevant areas.

Your past work experience does not need to be a job where you got paid, you can mention any projects you have participated in.

Have you ever worked on open source projects? No

## **Research/Publications:-**

- 1) **Improved Object Lookup in Unstructured Peer-to-Peer Overlay Networks, Chittaranjan Hota, Gaurav K, Prasanna G, Sathya M, Hrushikesh Mohanty, and Muttukrishnan Rajarajan, Fourth International Conference on Recent Trends in Computing, Communication & Information Technologies, VIT, Vellore, P.V. Krishna, M.R. Babu, and E. Ariwa (Eds.), ObCom 2011, Communications in Computer and Information Science (CCIS 269), Springer, pp. 237-244, Dec 2011.**
  
- 2) **Probabilistic Routing using Queuing Theory for MANETs, Gaurav K, G Prasanna, and Chittaranjan Hota, International Journal of Wireless and Mobile Networks, Vol 3, pp. 144-158, August 2011.**
  
- 3) **Cost-Based Query Optimization with Heuristics, Saurabh Kumar, Gaurav Khandelwal, Arjun Varshney, Mukul Arora, International Journal of Scientific & Engineering Research Volume 2, Issue 9, ISSN 2229-551, September-2011.**

## **Personal Interests**

I love hanging out with friends. I always follow my heart and whenever I feel stressed I find myself in swimming pool. I believe in **“Who I am –will be decided by my choices, but not by my abilities”**.

About The Project

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## **Project Proposal**

What is the specific topic or area of interest you are proposing to work on?

Explain what this project consists of

**I can work on any project in network but I am thinking of implementing and improving Vanets.**

**I have an idea/plan:**

**Example:-**

**Suppose there is a city. We have to pass a message to some place .**

**We can pass this message through Vanets .Now, since some of the cars know the places or they have some kind of knowledge of the place. They are given higher priority. And then the connection will try to be established using these high priority nodes.**

**But because these are mobile nodes, so it might possible some node going out of reach. So we have to keep track and prevent sending messages to these nodes, as this will either increase in Network Traffic (because the message will be send again) or loss of message.**

**To prevent this, we can use some probability approach.**

**We can further work on this, if given chance.**

**Actually this is one of the project, I wanted to work on in my 3-2 semester. But was unable to do this project at that time. But I would love to do it now, with full passion and dedication.If you have something more exciting we can work on that.**

### **Interest**

Why are you particularly attracted to this project? What makes you the best candidate?

**I have done all my projects in Networks.In future I wanted to work in Network + artificial intelligence combo and wanted to pursue masters in the same.**

**I have deal with several network simulators including ns3.**

**Others are rapidnet, Nctuns, Netsim.**

**I can work on this with full dedication.**

### **Future Plans**

We are especially interested in GSoC applicants looking to pursue research or work in related areas in the future, so be sure to note any relevant plans you may have.

**I wanted to pursue my masters in (network + artificial intelligence) combination.**

### **Approach**

What is your technical plan for achieving the goals of the project?

What components and functionality will have to be developed, integrated etc.?

Which development methodology would you use? What testing approach are you going to use to ensure the code quality?

**I can compare my result with other protocols. Can compare the network traffic**

**Time zone**

What are your expected work hours (in UTC)?

**I can work anytime.**

What is your physical location for the summer?

**I will be in India from June. Before June, I will be in Singapore.**

The project places no requirements on these but it will affect chat scheduling as well as mentor availability and selection.

**Commitments**

Do you have any other commitments over the summer that would impair your ability to participate in the project, e.g., classes, thesis defense, existing work commitments, etc? Note: The project does not expect students to take personal vacations during this period; if there is a personal vacation planned, please state when, and how you would make up the time.

**I am currently doing thesis, which will get over by the end of April. So, I am free in Summer and can give my full effort.**