**Computer Science Association, BITS Pilani**

8 students of 2008 batch share their views on
BITSian life, Computer Science in BITS, Available Carrer Options
and more.

SENIOR SPEAK

## Contents

# Introduction

Hello
Phew! It feels really good to finally come out with Senior Speak 3.0.It's coming out a bit late but as it is said 'better late than never'. The aim remains to save inputs from seniors even after they leave Pilani so as to provide juniors with sound advice which they could use in making career decisions.

**about: Computer Science Association**
Computer Science Association (CSA or A7 Association) at BITS Pilani is the association responsible for
computer science related lectures/ workshops/ events on campus and forms the crucial link between students pursuing these disciplines, the faculty and industry. It is also the leading discipline association
involved with events and innovative project displays during the technical festival APOGEE.
[APOGEE: http://www.bits-apogee.org/ ]

**about: the document**
The document contains inputs from students about to graduate from campus on a host of topics including electives, career decisions, internships etc. The folks mentioned in the document shall be pursuing PhDs, taking up jobs in industry, study management. The attempt has been to get varied opinions from seniors across *B.E. (Hons.) Computer Science* with the sole purpose to help juniors appreciate the possibilities in and after college. The views in the document are of the individual and not of CSA.
Much thanks to all seniors who participated in the survey and gave their frank opinions.

**about: the team**
The team which made the doc happen consists of the following 2nd Years:
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Any suggestions/ inputs/ criticisms can be sent to the-csa-editorial-team-2011@googlegroups.com. Hope you'll make excellent use of this.

Anirudh Pathak
2009A7PS075P
Chief Editor
CSA 2012
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## Lingo

A list of abbreviations used in the document:

• **3-1:** Third Year first semester
• **CDC:** Compulsory Disciplinary Course
• **A7:** Discipline code for B.E. (Hons.) Computer Science
• **C6:** Discipline code for M.Sc.(Tech.) Information Systems
• **DCOC:** Discipline Courses other than CDCs (includes Discrete Mathematics, Microprocessor Programming)
• **EL:** Elective


**CDCs in 3-1**
• **DSA/DS**: Data Structures and Algorithm
• **OS**: Operating Systems
• **TOC**: Theory of Computation
• **DIGI/DECO**: Digital Electronics and Computer Organization


**CDCs in 3-2**
• **PLCC**: Programming Languages and Compiler Construction
• **CompNet**: Computer Networks
• **ACO**: Advanced Computer Organization
• **DBS**: Database Systems


**Other Courses**:
• **OOP**: Object Oriented Programming (C6 DCOC in 3-1)
• **ParCom/ PC**: Parallel Computing (EL)
• **NetProg**: Network Programming (EL)
• **PR**: Pattern Recognition (EL)
• **DM**: Data Mining (EL)

# Mayank Taneja

2008A7PS120P

### Dept./Clubs

Clubs and dept. play a very important role here. It is a great thing that all the work is managed by the students themselves with a little help from faculty. Along with that, it also teaches time management and behavioural skills like leadership and management.

### Summer Holidays

Google Internship (After 3-2)

### Electives

Basically, choice of electives depends on personal interest of the person. Artificial Intelligence is good if you can put more effort than what is there in the course structure. Network Programming is good if you are interested in networking, but again it is a bit heavy. OOP/OOPD is almost a must do course for an A7ite. Apart from these, Data Mining, Image Processing/Pattern Recognition, Fuzzy Logic are the ones which I have done and were useful for me in my projects later on.

### 3rd year experience

3rd year is quite hectic for A7ites. It was no different for me. 3-1 is majorly about DSA, which is the most important course in our whole degree and it requires quite a huge amount of effort and practice. The best thing that was there in 3-2 was the semester long assignment in PLCC in which we have to code our own Compiler for a toy language. It requires the application of all we have learnt in data structures course. It surely made the semester hectic, but it was worth it. The CDCs give a basic knowledge of the courses and for those who are interested in some particular course, Advanced courses for the CDCs are there.

**Course structure**
We had all our major courses (CDCs) in 3rd year, which means by the end of 2nd year, we knew little about our discipline. But now it is getting changed which is a good thing because it will reduce the burden in 3rd year as well as students will be able to learn more core stuff. As far as course structure of CDCs is concerned, I already told that imparting basic knowledge about everything is good because it doesn't burden those who are not interested and for those who are interested, there are advanced courses.

**PS2 suggestions**
Students who are interested in research should go for thesis on campus or under some other professor depending on their interest. As far as stations from the list provided by BITS, I haven't done much research. But I have heard that work at Amazon Development Center and NetApp is good.

**APOGEE projects**
1) Neuro Fuzzy Clustering of Remotely Sensed data
It involves combining existing Fuzzy Logic algorithms and Neural Networks for the clustering application of images that have been obtained by remote sensing satellite for various purposes like finding out the vegetation type in a particular area. The combination of both techniques yields better results than either of them used alone.
2) Smart Pen
Use of Recorded movements of hand using Accelerometer to train a Neural Network and then use it to recognize handwriting of the person.

**Projects under Profs.**
I didn't do any SOP/COP under any professor. But I did an internship at Google, Bangalore in summers of 2011 and that was quite a great experience for me to know about the work in corporate world. I did my project under the Search Infrastructure team regarding creation of distributed graph for improvement of quality in Google search engine.

**Plans Post graduation**
Right now, I am going for job only.

**Job. Why?**
One of the major reasons is that if you get a good job right away, you would prefer gaining some experience there before going for higher studies. And I am not that much interested in MBA, so it directly goes out of equation. As far as MS is concerned, it depends on my state of work after 2 years, whether I am satisfied with it or not and a few other factors.

# Sonia Goyal
2008A7PS088P

**Dept./Clubs**
BOSM Controlz

**Summer Holidays**
Learnt Core and Advanced Java after 1-2 and PS1 at Tata Teleservices Ltd., Delhi

**Electives**
Image Processing, Data Mining, Object Oriented Analysis and Design

**3rd year experience**
Mostly all are good courses. Got to learn about most of CS in 3rd year only.

**Course structure**
Not satisfied with the course structure we had, as there is too much to do in just 1 year.

**PS2 suggestions**
Amazon, Adobe, Intel, Netapps, Zinga, Oracle

**Placements**
Intel India, Bangalore

**Suggestions**
Get a very good hold on DSA and coding to get through the placements

**Start-up Enthu**
None

**APOGEE projects**
1)Automated Genre Recognition and Mode Detection System
Genre recognition of audio files and classification into several categories based on genre. Adjudged 2nd in CyberFIESTA, APOGEE (International Technical Festival of BITS-Pilani), 2010.

2)SVG (Scalable Vector Graphics) contact list application made in J2ME
Displayed in self-conducted workshop on Netbeans in APOGEE, 2009.

**Projects under Profs.**

**1)Design and Implementation of contact search application for symbian mobile phones**

A yearlong project planned and executed in two successive phases on J2ME platform under the mentorship of Prof. J.P. Misra, CS Department, BITS-Pilani. In 1st phase, a mobile application was developed to search contacts in the mobile phone through any one of the parameters (First Name, Last Name, ID No., Address and Phone No.). In 2nd phase, the project was further extended to query Javadb database (of contacts in the form of tables) through a web application To implement communication between the server and database, a database connection pool was set up
.

**2) Design and implementation of multi-proxy server with caching and authentication**

A proxy server was made to respond to the requests from both ftp & http clients. As part of the course "Computer Networks" under Prof. Rahul Banerjee, BITS-Pilani.

**3) Coupling Based analysis of Object-oriented software**

Term Paper presentation as part of the course „Object Oriented Analysis & Design" under Prof. Pankaj Vyas, BITS-Pilani. It included the practical application of the coupling measures to the Class Integration and Test Order (CITO), Change Impact Analysis (CIA), and Design Pattern Detection (DPD) problems. In all three cases, algorithms were developed to find optimal solutions to the problems using coupling measures.

**Plans Post graduation**
MBA after 1-2 years of job experience

**Why MBA?**
One directly goes 5 years ahead in life after doing MBA and don't want to go abroad for higher studies

**Directly or after Job**
After job

**Courses interested in**
Human Resources Management

**Colleges applying for**
IIMs, FMS, XLRI

**Areas you want to focus**
Global Management

**Coaching required for CAT/GMAT**
Self-study is sufficient as far as I think

# Ankur Murarka

2008A7PS235P

**Dept./Clubs**
Creative Activities Club
Being a Joint Co-ordinator in 3rd year was a great leadership experience

**Summer Holidays**
1st year – learnt C
2nd year – PS-1 at WIPRO, Bangalore

**Electives**
DP, PR, Advanced OS,OOP, SOP
PR-course syllabus could've been upgraded
OOP- the course was an intermediate between beginners and advanced.
PS-1 :Designing a web-portal using JAVA

**3rd year experience**
The non-CDC courses ,like NumAl were lite but CDCs were so tough that I had to take a subject lite to manage others. Our CDCs are as tough as the overhyped EEE CDCs.

**Course structure**
Changes in the current 1st year curriculum are very much welcomed and positive.

**PS2 suggestions**
HCL, Singapore
HCL had a short interview, not very technical. Generally looked at how interested I was in working for them. Apply if you are eligible and just hope that you are a little lucky.

**Placements**
Adobe (got an offer from NVIDIA as well)
Chose Adobe over Nvidia, mainly because I am inclined more towards software development. HR round tests your personality, and the technical rounds test your programming and design abilities.

**Suggestions**
I had to juggle between 5 interviews and written tests on the same day. Placement Committee could help make it less hectic. Suggestions to students- brush up the fundamentals. Be ready to tackle deceptive questions.

**Start-up Enthu**
Yes. Cycle club - we did some brainstorming about the design of it. CEL contests ignited that thought a few times. I wouldn't start-up right away. But would first work for a couple of years, get an MBA and might start a family business, maybe.

**APOGEE projects**
None. A project on traffic management system did not materialize but a few juniors submitted a paper on it.

**Projects under Profs.**
Yes. SOP on neural networks was done under a CEERI prof. It is a tad tougher to get grades working under the stricter, CEERI Profs

**Plans Post graduation**
Job, MBA, Start-up

**Why MBA?**
Has always been my dream to run a business, because I'm a Marwadi.

**Directly or after Job**
After Job.

**Courses interested in**
Finance

**Colleges applying for**
IIMs

**Areas you want to focus**
Everything required for a successful venture

**Coaching reqd for CAT/GMAT**
Yes.

**Why job before MBA?**
Want a technical work experience before starting my own venture.

# RAVI KIRAN
2008A7PS059P

**Dept./Clubs**

I have been a part of CCTV all throughout, & was also in DebSoc in the first year.
They are vital for every BITSian. They teach you group work, catering to time & short deadlines, opportune you with interaction with lots of people.

### Electives

I took IP, DP, Net Prog, OOPD. I took OOPD because of my interest in learning designing & moreover it was a 'SAC' course too. DP was more of a consequence of a very bad PR No.

### Suggest Electives

I would suggest IP as it is a different course, Net Prog for people who love Computer networks. OOPD is good too. Moreover, Electives should be interest based. I took more of Comp Sc courses merely because of my interest. Try the vast fields available & broaden your vision so as to know your interests better.

### 3rd year experience

3rd year is 'lite' only. It was no different for me. 3-1 is more fun though; enjoyable with lots of interesting courses & much little efforts needed. It just had the adequate flux of enough work load with good teachers making your work a smooth drive. For me at least a majority of courses were lovable. 3-2, I agree, was lot more burden. You felt the pressure at times. However, I derive happiness from my surroundings. If the people around me are happy, I tend to be at lot more ease. It wasn't much of a pressure cooker situation for me hence.

### Faculty

To me engineering is more of a self learning process. We can't keep complaining. Even the faculty does put in its best. Nevertheless, I do agree that for an average student, some improvements ought to be made.

## Course structure

I was pretty satisfied with our structure. Although I agree the revived structure is lot more compact & is bound to do good.

## PS2 suggestions

I would put it as per the interests

Research- HP Labs
Networking-Net App
DreamWorks, etc
There are some other good options available too.

## Projects

Nothing much actually. Did a project with my wingies in 2-2 & won the first prize. I have worked independently or trying out things like bubble-breaker, mine-sweeper.

## Plans Post graduation

I have this immense desire of continuing my studies. I will work on job for now. But am planning to go for Masters & hopefully, if the good work continues, I might go for PHD.

### Preparation for GRE

I have been preparing but didn't write my exams this time. I will go for GRE in the next sem.

### Colleges

Not given a serious thought to it. But, yes top 10 to top 20 in US is something that I will hope to get.

### Fields of interest

As of now, Algorithms is my favourite. But, i am interested in going for Machine Learning/AI.

### Recommendations etc

A good CGPA is very important. I would say at least 8.5+
Projects & recommendations are vital too. If you are interested in research internships, a project is a must. All these things do play a role if you are going for higher studies.

# A. Manukranth
2008A7PS056P

### Dept./Clubs

CCTV, CSA.
Good for everyone. You get to know lot more. Your social contacts broaden. You get to know more of yourself & learn to extract the best out of you. I was a team-leader earlier, & also became the Oasis Joint-Coord of CCTV. It helped me know my managerial skills. I could evaluate myself.
I believe clubs/departments are much more an ideal place for the not-accustomed-to-mingle types.

### Electives

I have taken Fuzzy Logic, PR, DP, OOPD as my electives. I am doing 2 SOPs too.
I was more comp sc centric in choosing my electives.
I suggest every CS/IS student to try OOPD. It is very good & pretty helpful too. Besides, i believe PR, IP are good options to consider. I think we should exploit the flexible electives to know our field better.

### 3rd year experience

It was nice. The courses were good, though they could have been better. I guess some courses were more theory based, they lacked enough practical exposure. OS was one such course & so was Comp Net. DSA, PLCC were decent. However, there is lack of induction of modern concepts. You realise after completing the course that your application knowledge about the course is so naive.

### Faculty

We can't expect a lot basically. Even in the IITs the level isn't too good. To me, the thing that is lacking in here is the significance given to research work. There isn't a research atmosphere here or any encouragement for the same.

### Course structure

I think there was a dire need for a change. Thankfully, it has been realised. Better now than never.

### PS2 suggestions

Amazon Development Center, NetApp have good work culture.
HP Labs, Dreamworks are good options too.
The choice of PS stations depends mostly on the interest of the student. Well, the interests are quite varied & so are the available options.

### Projects

I did a project under a professor. It dealt with a Compiler. A nice learning experience it turned out to be.
I believe projects under profs are one good way of getting to interact with your profs. which can do a whole lot of good to you in terms of knowledge.

### Placement

You need to be good at programming. That is a must. Besides, you need to have a good hold on your CDCs (OS etc).

**Plans Post graduation**

Right now, I am going for job only but, i will later go for higher studies. I am interested in opting for MS.

**Job. Why?**

It would supplement the much needed experience & exposure. The future course would depend largely on how the i go about in the professional world.

**Preparations**

I believe it demands more of a continual development & improvement in your language & aptitude. However, yes i have been going through some general material.

# Maheshwar Reddy

2008A7PS124P

1. **Which clubs, departments have you been a part of? How crucial do you think their contribution has been in your graduation life?**

Firewallz, CSA. Essential for socialising, getting to know more & more people. Get to learn lots of new things from other members-be it technical, or mere taste of real life. Interaction is most vital, & clubs/depts. supplement that need of yours. Everyone should join some club/dept.

**2.How was the 3<sup>rd</sup> year experience; working your way through the high-burden CDC zone?**

You sort of seem to get going without realising the'burden' that most people talk of. Newer avenues venture out. There are some really good courses which interest you & are of significance in your professional life. The clubs/depts. provide the much needed lighter moments to help you relax & at the same time do something constructive.

**3. What is your opinion of the Course Structure? Any changes that you would have wished for?**

Good. The problem mainly is the unavailability of good faculty in some important courses. For example, DSA faculty is fine, OS isn't.

In 3-2, courses like Comp Net, DBMS- are more theoretical, should be made more practical.

This is where we lag behind from IITs, IIIT. They have more practical based study.

**4.What electives have you opted for? What do you think should be the basis of choice of electives?**

OOPS, Net Prog, PR.

There are 2 kinds of people in BITS, some know what they want to do & some don't. Electives are meant to pursue interests. Choose according to your interest or exploit this feature to get acquainted with diverse fields if you belong to the 2<sup>nd</sup> kind.

**5.What electives would you suggest to the CS/IS aspirants?**

AI, Machine Learning, Net Prog, OOPS, Data Mining, PR.

Net Prog is, to me, meant to be done by every CS student.

**6.How have the placements been? After having experienced this crucial venture of placements, what would your suggestions be to the juniors?**

Very good. Be thorough with CDCs.

**7.What projects have you done in the past- projects in Apogee, as well as under Profs?**

2nd year, a project with wingies, won first prize.

SOP under Murali S P, A networking based project.

Projects are of great help not just for the MS aspirants but in gen too. Good for resume, get a practical feeling of doing something, applying your knowledge.

**8.What are your plans post graduation?**

Job 1 year, MBA.

**9.Now that you are bidding goodbye to BITS(in case you can bear the grief of separation!), what changes, if any, would you wish to be made in here?**

One thing comes to my mind. Lack of good CSIS faculty. None have re-searched themselves neither do they motivate students to do so. Navneet Goyal for instance. They motivate you just to get a job, arousing no interest in novel & research. That's why for interns we have to opt off campus options. In BITS Goa, they have proper faculty-professional company links. These days there has been a MS SD initiated by a prof. there. That's what is lacking here & it must be realised.

There should also be proper counselling from their part. Not just through spoken word, but, proper guidance initiatives/measures. Present system needs to be made more interactive.

**10.On a good note though, what would you say is the 'one best thing' about BITS? What will you miss the most about BITS?**

NO ATTENDANCE. The best thing. You get time to things of your interest & to get a deeper insight of the courses/topics you find interesting. You can har-ness newer skills & do lots. But, it again comes down to two types of people-one section utilizes the time, the other misuses it.

**11.Why do you plan to go for MBA?**

I like the management part better. I will take up a job for a year & will figure out. But, I know it appeals to me more, that's why I am so much into it.

**12.A next stage means, more Exams to clear. How have you been preparing for GMAT/CAT?**

Not anything special. It's all about aptitude. We have been trained by the systemhere well enough. We already have the appropriate temperament & aptitude. Yet, I will see through something during my job.

**13.You have been the hockey team captain. How has the experience been , besides what's the inside picture of the BITS sports facilities?**

Got into the team in the first year itself. Took it up just because of my interest but, it has helped me know many more people on campus & spend quality time playing, training. Won't say much on the sports facilities, as it's all going to be looked into by the Vision 2020.

# K A R Shyamsunder

2007B3A7674P

**1.Which clubs, departments have you been a part of? How crucial do you think their contribution has been in your graduation life?**

Nirmaan, Audi Force. Haven't worked much in clubs and departments but active in Computer Science Association (2008-2010) and Economics and Finance Association (2007-2010)

The experience has been very rewarding: technical aptitude, leadership skills and networking with a wide range of people.

**2.How was the 3$^{rd}$ year experience; working your way through the high-burden CDC zone?**

Did the mistake of taking too many electives in 1$^{st}$sem (8 courses in all), November was hell. Pulled it back in 2$^{nd}$sem keeping just one elective in hand.

**3.What is your opinion of the Course Structure? Any changes that you would have wished for?**

Course structure was alright for the CDCs but Data Structures could have been covered during CP 2. The new curriculum is awesome and envious.

**4.What electives have you opted for? What do you think should be the basis of choice of electives?**

Tech: Fuzzy Logic, LAMP (SDET), OOP, AI, SOP, LOP

Non-Tech: Calci, Short Film-making, NVC

Take the technical ones in order to pursue specific interests, or if the faculty is very good. Don't take more than one in CDC semester.

For something totally new or funky, check the courses under BITS.

**5.What electives would you suggest to the CS/IS aspirants?**

GAN, Fuzzy

OOP (if not structured) – post CP 2

SDET course if u don't get any elective during registration

AI, CG, Parallel Computing (according to faculty)

Net Prog – if you want to get your fingers burnt

Advanced Algo, DSTN (opens doors to higher studies)

**6.Why did you choose to be on-campus this sem? Any favourites?**

Wanted to do some quality thesis work and also sit for placements. Was too naïve to know that the former requires a lot more self-motivation.

**7.How were the placements? After having experienced this crucial venture of placements, what would your suggestions be to the juniors?**

Very good for CSIS & so for me; Suggestions:

- CDCs on finger tips esp. DSA, OS, ComNet
- Other than C, learn Java or C++ thoroughly
- Keep answers ready for "why do you want to join us? Why you?"
- Take time out to **document** your projects during the summer. Carry those reports.

**8.What projects have you done in the past- projects in Apogee, as well as under Profs?**

APOGEE 2010 – a project on NLP in the software adaptability category

MIT-BITS iLabs OSS under Prof. Rahul Banerjee

**9.What are your plans post graduation?**

Work and then MS/PhD

**10.Do you have any plans of going off for a start-up at some point?**

Was involved in starting my own along with a friend; but its dormant now.

**11.Now that you are bidding goodbye to BITS(in case you can bear the grief of separation!), what changes, if any, would you wish to be made in here?**

Administration has woken up and it's also time for us, students to do so.

- Clubs departments and assocs should be handled more professionally.
- Should raise our own standards and shoot for the stars while at BITS. Be it summer internships or entrepreneurship or some hobby; do it the best possible way.

Weekly seminars from people in industry or a particular field should be conducted. It'll help stay as close to the real world as possible.

**12. On a good note though, what would you say is the 'one best thing' about BITS? What will you miss the most about BITS?**

It helps you discover a lot of things about yourself, and allow for all-round improvement. I'd miss the fact that everything: acads, learning, movies, concerts, parties, competitions, friends, etc.; was at one place, within the 300 acres.

**13.Why do you plan to go for MS?**

Interest in CS and for job opportunities abroad

**14. Would you be opting for MS directly or after spending some time on job?**

Spending some time on job

**15. What courses are you interested in?**

AI is something that appeals to me the most.

**16. Which colleges are you applying for?**

UIUC, GaTech, UCB, CMU

**17. How vital is the CGPA, Projects done, Recommendations obtained for MS?**

I would just say

Projects>>Recommendations>CGPA

**18. A next stage means, more Exams to clear. How did you keep preparing for GRE?**

Finished writing the exams. Prepared from Barron's and 4 weeks at a stretch.

Wish to apply both the technical and managerial learning gained during college in the professional world. Expect to be more refined on both these fronts, build a good network and work on some kickass projects.

# Mihir Patil

2008A7PS031

**Dept./Clubs**

Embryo

Was not very active though.

**Summer Holidays**

1st year – enrolled into a course in C

2nd year – PS-1 at Pennywise Solutions, Hyderabad

PS-1:Analyzing a particular commodity and following up, based on social net-working updates. Involved using APIs and JAVA.

**Electives**

DP, IP, Advanced OS.

DP - course was not well organised by the faculty, though the syllabus was good

## 3rd year experience

3-2 was very hectic

## Course structure

Introduce DSA in second year. First part of PLCC could be merged with TOC

## PS2 suggestions

Yet to apply.

## Placements

Microsoft, Redmond, WA

Be thorough in DSA. In fact, the first DSA lab question appeared as is, in the interview. There were no aptitude questions, except one puzzle question

## Suggestions

Give it your best shot. Since resumes are mostly alike, one can't ascertain why you got placed and not your neighbour

**Start-up Enthu**

**No**

**APOGEE projects**

2nd year - a music player that displays tracks similar to currently listening, like last.fm .

**Projects under Profs.**

In my 3rd year, worked under SP Vimal on Object tracking in video fields using MATLAB

**Plans Post graduation**

Job followed by MS

Had planned to do an MS right away but had to postpone due to an unexpected and unrejectable offer that came by.

**MS, Why?**

Would like to pursue some fields of interest

**Courses interested in**

DSA and OS

Actually liked most of the CDCs.

**Colleges applying for**

Not thought about it.

**Rate the importance of CGPA, Projects, Reco. For MS**

Projects>Reco.>CGPA

Once above cut-off, how much above it doesn't matter.

**Coaching reqd for GRE**

Required