

Sarath Natakam

https://in.linkedin.com/in/sarathnatakam

A Goal without a plan is just a wish

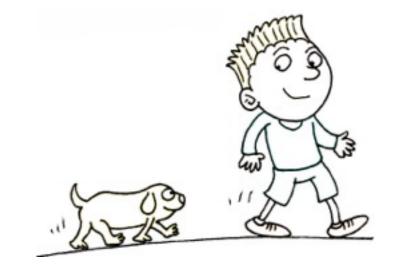
If your **goal** is to get into a **job**... **Foll**

Why follow me?

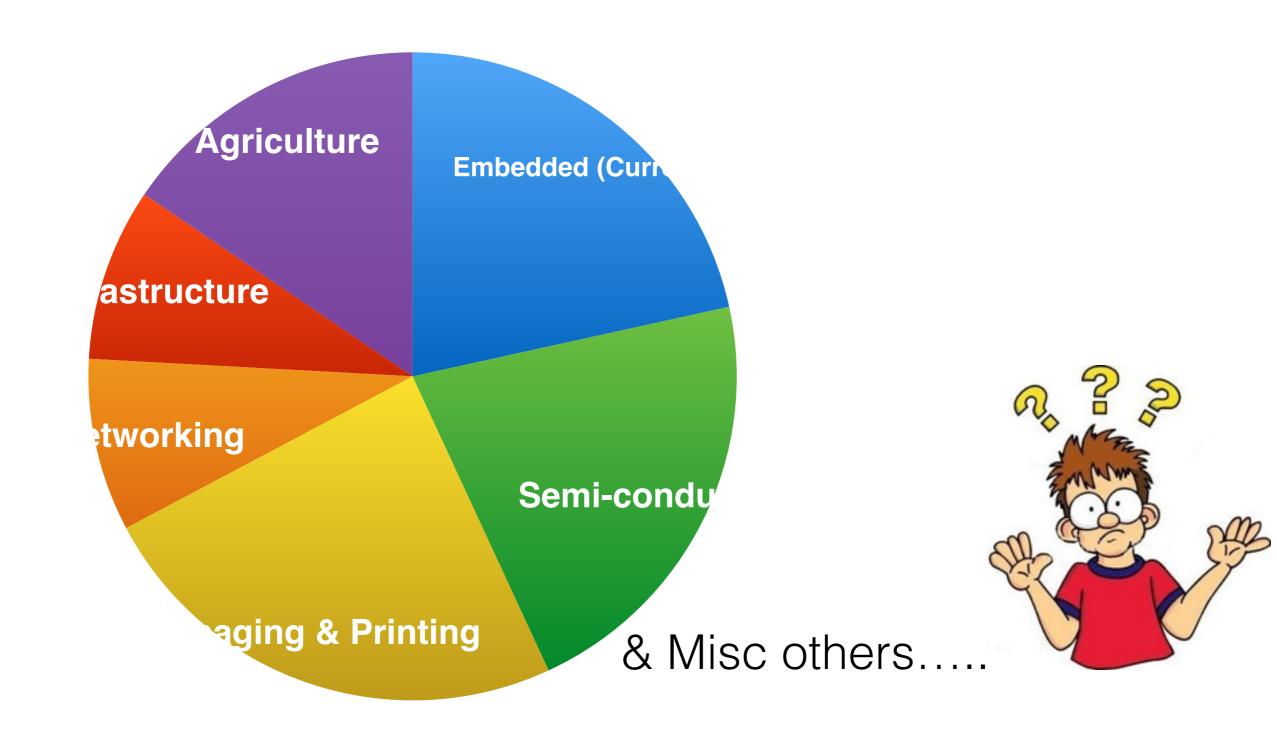
 I was interviewed by small companies to big corporations as an Engineer over the years.

Companies I worked with - IPC, Promag, DataQuest, Microsoft, Tallika, HP, Microchip, Intel, e-consystems, etc.,





My Industrial Exposure - Full-time & Consulting





contd.,

I had the opportunity to recruit & setup 25+ Research and Development team.

It took us 3+years to get the right people and coach them.

My teams **experience** range from **Freshers** to about **20 years**.

We offer Capable freshers throughout the year.





Freshers - Industry expects this



To get job I should learn: Microprocessor, Micro-controller, Raspberry Pi, Game Programming, C++, Java, Neural networks, Unix, Linux, Windows, Machine learning, DBA, .NET, Android, Python, Erlang, Shell Script, Perl.



"What we really expect from **U** are not big things but simple things"

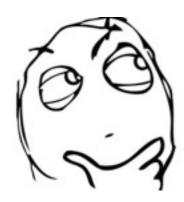


- Passion
- Communication to the extent of conveying ideas clearly
- Decent logical skills

Passion

- Most students seem to fail developing this even till final year of college. Industry is NOT interested in offering such students in-spite of scores in paper based tests.
- If a student is not passionate its a risk recruiting them, as they may quit or under-perform in their jobs making us to fire. Its a no win-win situation for company and the fresher.

How do we check passion?



- What is your most interesting subject?
- Can you explain about your mini-project?
- Do know any latest technology news?
- What do you do in your free time?
- We ask few fundamental questions around these.
- Most students who cleared the C questions and puzzles did not answer and sat with a blank face.

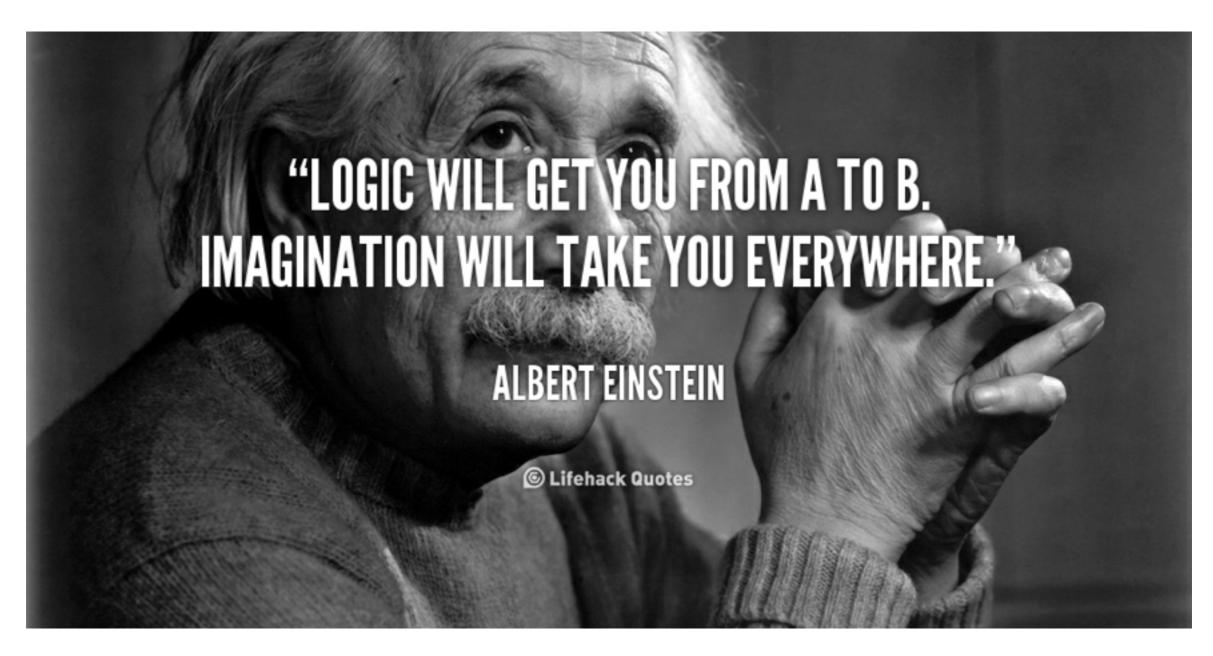
What we expect from you?

- You might have joined an engineering branch cluelessly. But we would like you to sit back, plan and develop passion in at least 2-3 areas/subjects.
- Four years is a huge time, if you cannot develop passion, how can we trust you and offer.
- Collaborate and develop with classmates or your seniors with due honesty and effort. It will pay you big!!
- If you mention projects we expect you to be very clear, passionate and involved on those. Any fake or best ones standout easily during interviews. We won't tell you we simply reject or offer you respectively,
- We do not expect big fancy projects, we expect projects of 1 or 2 months max.
- We do not under estimate in-house projects. We always appreciate your genuine effort and ideas.

Communication - What we expect?

- Most college students around coimbatore are good in communication.
- For those who are under development, we expect the following to be developed:
- At very basic level One should be able to verbally communicate technical things very elegantly.
- At very basic level One should be able to write technical documents without spelling and grammatical errors.
- Most importantly one needs to possess good listening than hearing skills.

Logical skills



Industry is always looking for talent to solve logical probs...

What we expect?

- If you are applying for a computer job, if you do not know a particular language, no worries, we expect you to WRITE the logic as pseudo code.
- If you are applying for a electronics hardware job, we would expect you to come up with a circuit on your own for a given problem.
- In general we expect you to think hard and solve puzzles or problems that you have not encountered before. This will take one closer to an offer. We always do not look for answers, we would like to see a good approach and attitude towards problems.



Not everybody can think logic naturally, it comes by practice, so we expect them to practice solving hard problems in classrooms, workshops, labs and in leisure.

Pointers for Electronics background

- For hardware jobs Learn and do projects related to digital electronics or analog electronics or networks. You should know to draw circuit diagrams, design some prototypes. Bring them and demonstrate in your interviews if possible. Be prepared to solve circuit problems.
- For a software jobs Learn a micro-controller OR microprocessor thoroughly. Learn to program them in C or assembly. Develop working prototypes with controller or processor interfacing with peripherals on your own.

Pointers for computer/IT background

- Learn your fundamentals thoroughly OS, Microprocessor, Data Structures, Database, Algorithms, etc.,
- Develop the skill and passion to write logic on paper for a given program.
- For programming job Practice one programming language or scripting language or framework for 2-3yrs by developing small products.

contd.,

- For DB administration job Pick-up one SQL database and No-SQL database and practice for 2-3yrs. Design and develop working products. Certifications are optional.
- For infrastructure jobs You should start from PC assembly, deploying computer networks using switches, networks and firewalls and at least one public or private cloud. Practice setting them up.

Certifications - bonus

- Many freshers complete DBA certifications, .NET certifications, CCNA certifications, etc.,
- These are nice to haves, but we generally do not care.
- We look for real skills!!
- For example: We found freshers with .NET certification are unable to write a decent simple word search program using C# or <u>VB.NET</u> and explain it.

206C6974746C65 16E642074616C7 A16C20Data BreachE204 6520 1A07072216145A 6F6163686573204C697474CC 5205265CB74AF81 C6E207468652A 261736B60142E20480810D3F5A8 368AF93010808B4FA017745C7A6 108B2C3FD5515 AFFA33C08E00F2A5697D011A56AFE64 074686520 2073 C732C2**0736852756B0**13 OAA20**633**6 6E642001A 719System Safety Compromised 1A7 5694C028**BE5**BF7**D011A0010A**3B**CE561AF87**0

Glitterati

- One fresher in my interview said they hacked the windows password -Spiderman!!
- One fresher said they wrote a virus program Superman!!
- Both had no clue what they were claiming when asked on basics of operating system.



Hacking = 's Virus Development

- Real hackers do not claim, they just do.
- They are very keen to write programs. Top hackers understand hardware and software very well than an expert programmer.
- They generally know more than one variant of a particular area they are interested in hacking.
- Hackers do not do bad things, I have few in my team who are good at it. They practice hard for long periods of time.
- If they can do it you can do it, perseverance is the key.

Emerging trends

- Data science
- Open source everywhere
- Augmented reality Gaming, Simulators, assistive products for driving, landing, flying and disabilities.
- Cloud's Amazon Web Services, Microsoft Azure
- Containers ex:Docker
- ARM based platforms

contd.,

- Mobile computing
- Natural language processing
- OpenGL ES, CUDA GPU's
- Don't get carried away by emerging trends. Some are fancy but hard to get your hands on. Some are shaky!!



You don't need to learn these, if they are really really interesting to you, pick one and try to work on it for 2-3 years. Write loads of code to understand and explain.

Internet of Things

Some Job misconceptions



- Software testing A no brainer job! FALSE, the smartest people only survive, otherwise you will get peanuts:)
- Technical writing What?? Even small companies are looking for freshers.
- Pre-sales I am not a salesman!! Needs thorough understanding of the engineered product, writes code + good presentation skills
- Corporate trainer Whats the diff between lecturing There
 is no set syllabus, get hands dirty as per industry needs
 regularly.

What it takes? A Sample analyser - use case



Graphics design
Mechanical design
Product manager
Product owner
Architect, etc.,

Touch screen Battery operated WiFi Motor controls Ethernet Printer Server Database Application Operating system Version control Packaging **Quality Certificate** Documents Cloud

Analyser team - Complex and multi-discipline

- C/C++/Qt programmers Model-View-Presenter implementors, Unit testers
- Manual and automation test engineers -process and scripting skills
- BSP and Firmware engineers Board Support Packages(BSP)
- Project managers Engineers with advance skills in estimation, costing, risk taking.
- Software architects Advanced experimenters, code reviewers
- Software build engineers Scripting experts, Server administration, Virtual Machine experts, Nightly build dashboard developers.
- Hardware engineers ARM SoC experts, Robotics expertise
- Project Leads Facilitators who bridged between Architects and developers
- Database developers Sqllite, FireBird
- Graphics designers Usability experts, Photoshop experts

As seen from the analyser use case - if I was a fresher and offered a job I would:

- walk into the job without reservations
- learn things and work with passion
- demonstrate my ability exceeding expectations on given assignments
- understand all the bits and the team over a period of min. 3 years
- gain superiors confidence and would request for a change in job role if I still desire
- it would not be smart of me if I take the offer and say I want to only work on algorithms, I want to develop operating system, I want to write only drivers
- Companies recruit us to solve their problems not ours, so we should listen to them first with passion is MHO.

Final words - Walk-in with an open mind and a passion for engineering, we will receive you with open arms



You can reach me on the following for career questions and networking



chooseyourcheese.wordpress.com



https://in.linkedin.com/in/sarathnatakam

Thank you