Roadmaps Page Content:

1st Year:

1. Choose a programming language: Recommendations for beginners: C++ or Java for those familiar with computer concepts, C for those new to computers.

2. Set up your laptop and Create accounts on relevant platforms: GeeksforGeeks, LinkedIn, GitHub, Leetcode, CodeChef, Codeforces, HackerRank,Code Studio and Practice Dsa in your chosen language( basic and easy questions)

3. Focus areas for beginners: Start with 1-2 hours/day for programming, Consider CGPA maintenance and understand placement trends.

4. Exploring Career Paths: software Development, Data Analytics, Cyber Security, Product Development, Product Designing, Product Management.

Useful Links

2nd Year:

1. Clarify basics of programming languages and data structures.
2. Give contests and Upsolve

3. Progress from basic DSA concepts to advanced topics like Tree Data Structure, Tree Traversal, Binary Tree, Hashing, and Graph.Work on different patterns to gain insight into complex problems.Students lacking a strong command should invest 3-4 hours daily in DSA.

4. LinkedIn Presence: Build a professional network, connect with companies, CEOs, and peers and Stay aware of hiring and internship opportunities.
5. Visibility and Resume Building: Post resume on platforms like GitHub and LinkedIn.Be visible and highly active to understand market trends.Regularly follow up on technology trends and utilize them effectively.

6. Project Involvement: Involve in as many projects as possible, especially by the end of the 4th semester.Post projects on GitHub and take ownership of tasks within the team.After multiple small projects, consider moving to bigger projects.
7. Efficient Time Management:Efficiently manage time between projects, academics, and other activities.

8. Explore freelancing and Open Source
9. Start preparing for gate exam , or any other entrance exam if planning for further studies.

Useful Links

3rd Year:

1. 3rd Year College Focus: Explore interests and narrow down career paths.Options include web development, app development, DevOps, Competitive Programming, etc
2. DSA Advanced:Master Data Structures and Algorithms (DSA).Core subjects include Arrays, Stacks, Queues, Linked List, Sorting, Searching, Trees, Graph Algorithms, Greedy Algorithms, Dynamic Programming, Backtracking.
3. CSE Core Subjects: Focus on fundamental concepts in Operating Systems, Database Management Systems, and Computer Networks.
4. Build necessary Soft Skills: such as communication, teamwork, and problem-solving.
5. Development and Projects:Utilize learned concepts to build practical projects.Tips for project development:

- Identify a project idea aligned with career goals.
- Plan and design the project.
- Implement and test using appropriate tools and technologies.
- Showcase projects on resumes and online portfolios.

Examples of Projects:

- Website showcasing programming skills and portfolio.
- Mobile app solving a common problem uniquely.
- Web application integrating with a third-party API.
- Machine learning model addressing a complex problem.

- Open-source contribution to a popular software project.

6. Job Application Process: Build a tailored resume and cover letter.Use online job portals (LinkedIn, Glassdoor, Indeed) for job searches.Attend career fairs to meet employers and learn about opportunities.Network with professionals through industry events and organizations.Prepare thoroughly for interviews by researching companies and practicing common interview questions.

Useful Links

4th Year:

1. Project Selection and Execution: Choose challenging tasks for projects.Think creatively and work on projects that stand out.Gain hands-on experience dealing with real-world situations.
2. Stay Updated:Keep abreast of the latest trends in the field. Regularly update knowledge to align with industry advancements.
3. Practice DSA consistently(6- 7 hrs daily)
4. Give contests and Upsolve
5. Revise cse core subjects.Explore freelancing and Open Source
6. Give Mock Interviews
7. Update to Ats acceptable Resume
8. Focus also on System Design , version control, development that make you job ready.
9. Apply for 6 month internships

Tip:Don't feel depressed , accept and improve upon rejections, ask for help and support