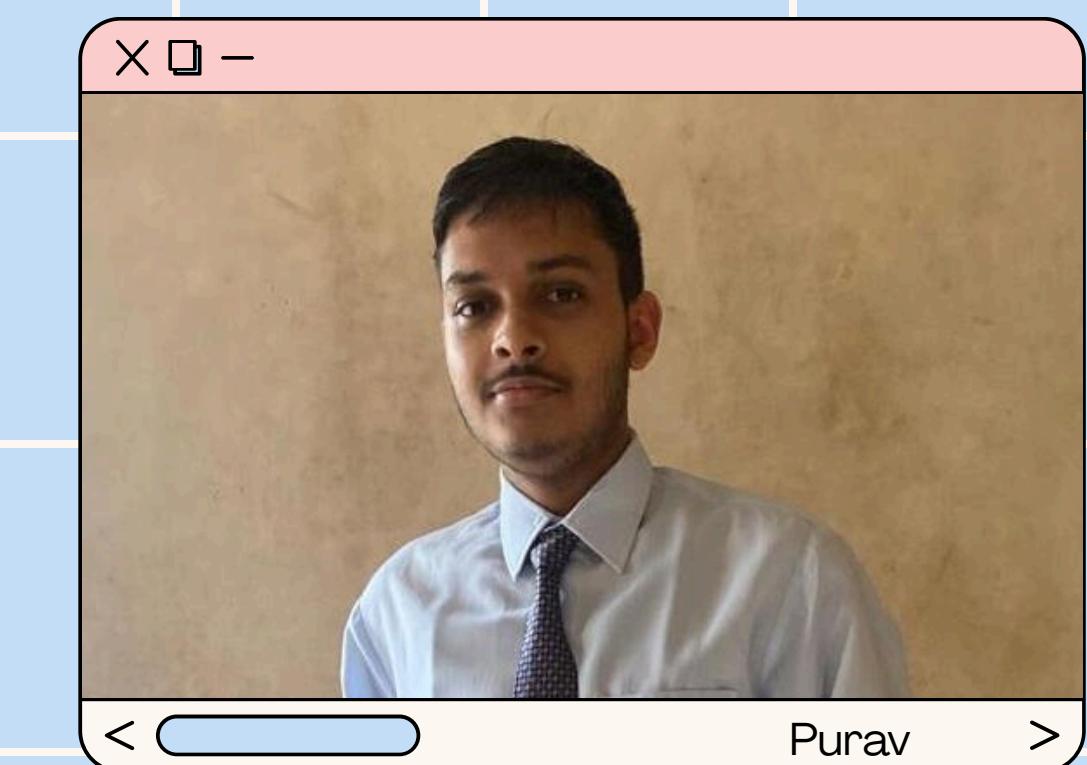
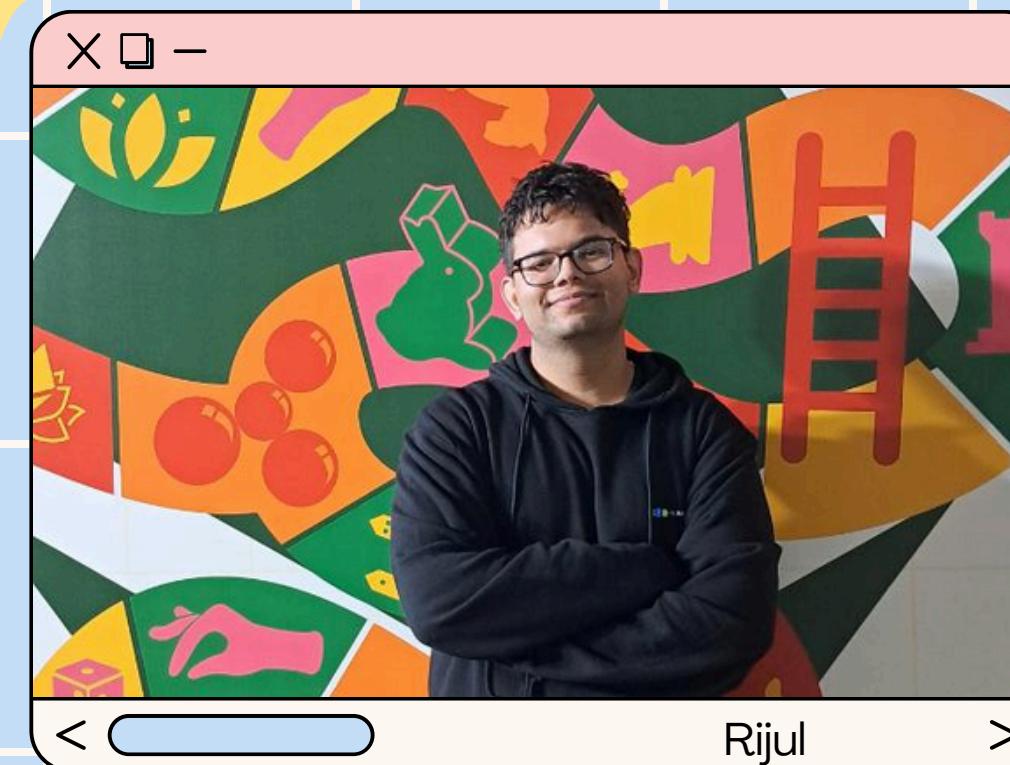
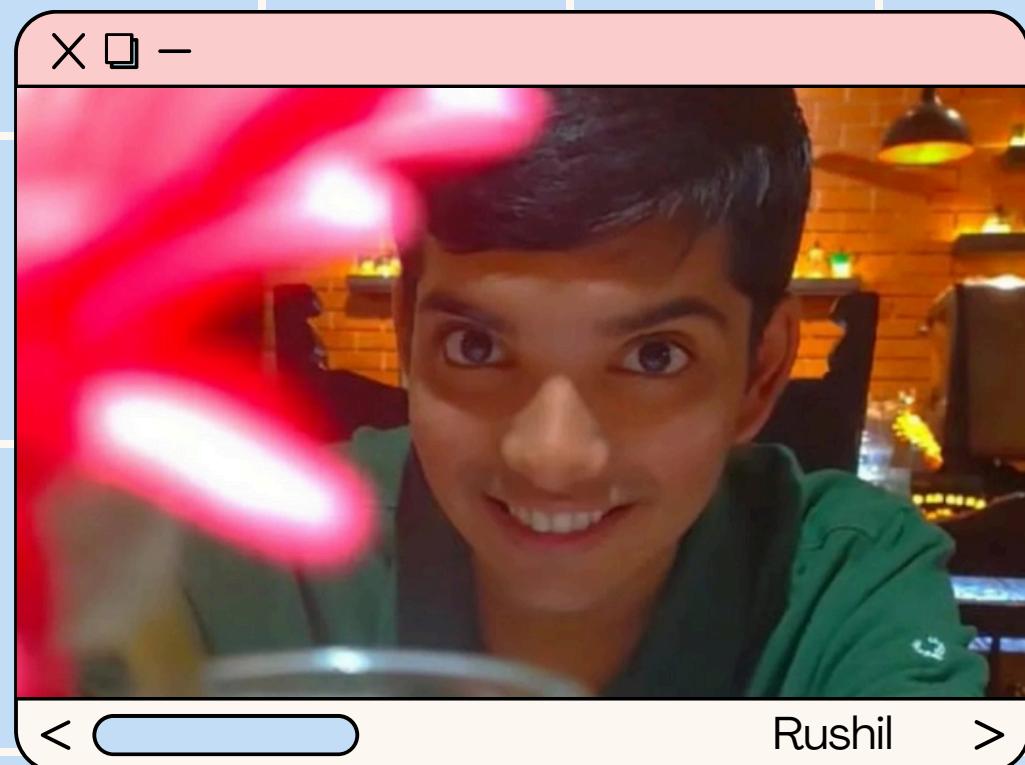




ORIENTATION 2025



THIS IS US.

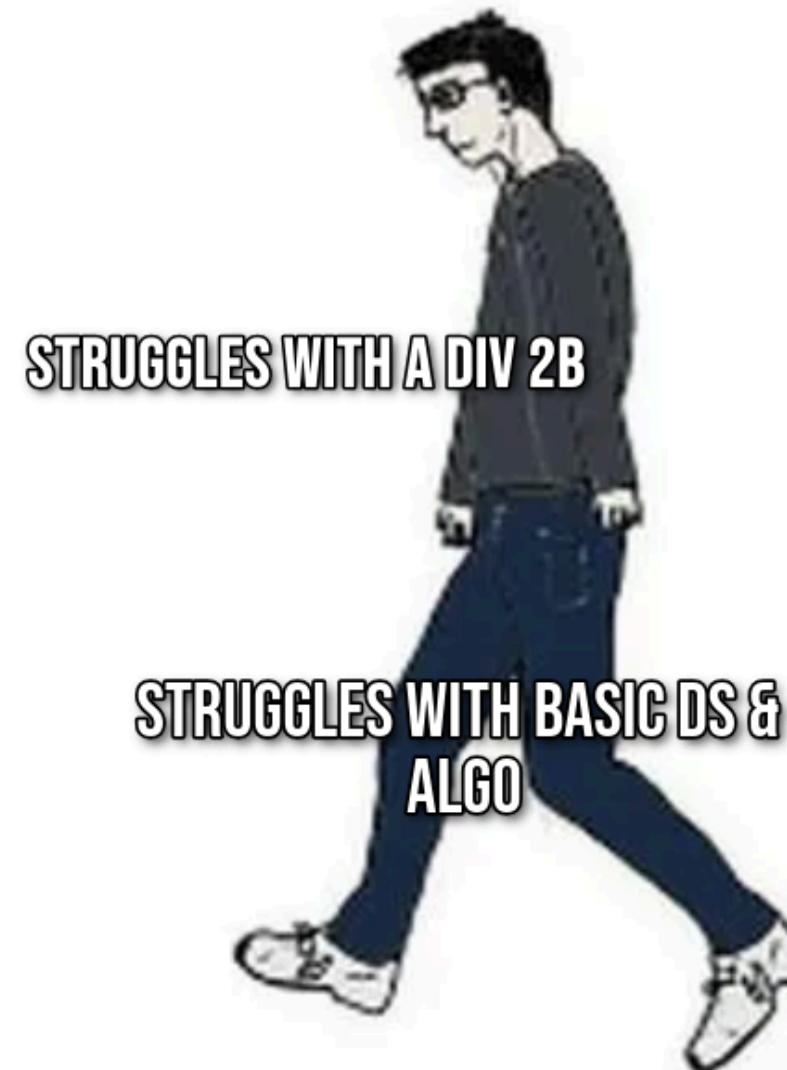


COMPETITIVE PROGRAMMING SUB-SIG

**virgin
leetcode user**

STRUGGLES WITH A DIV 2B

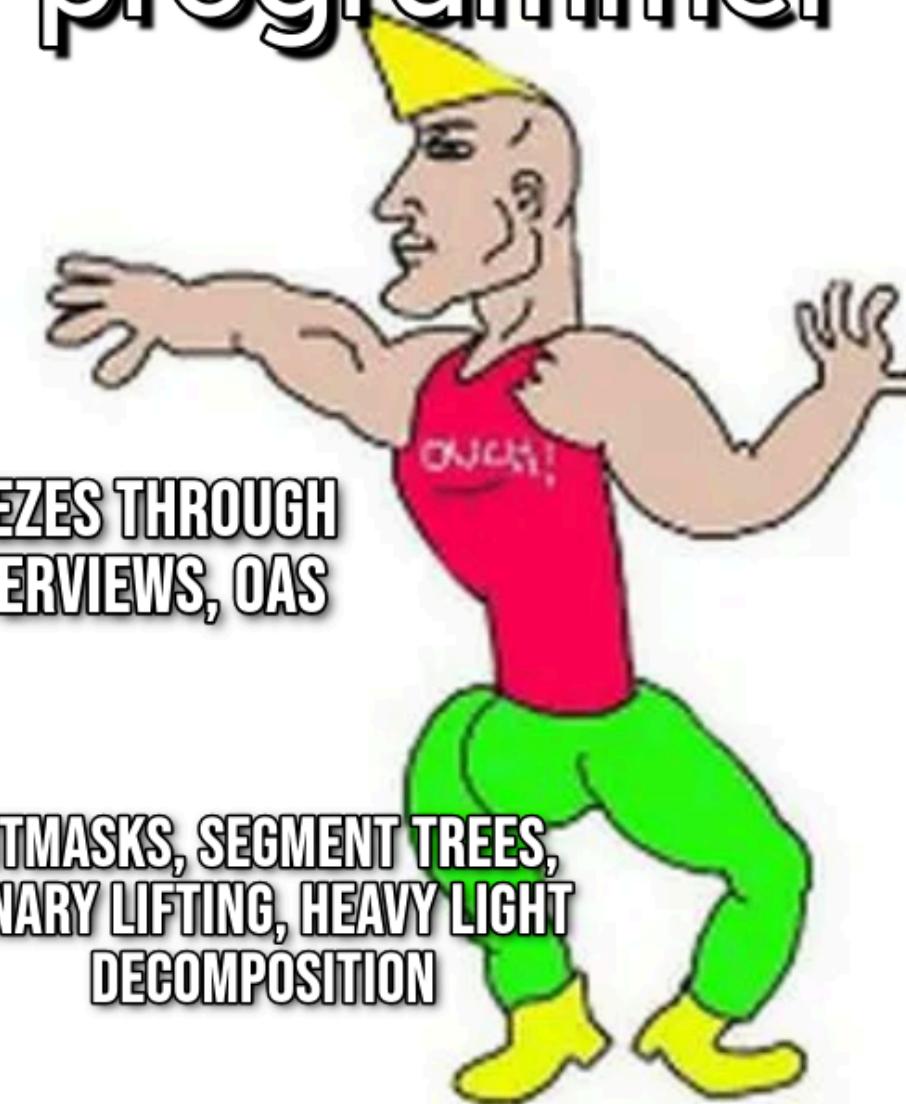
STRUGGLES WITH BASIC DS &
ALGO



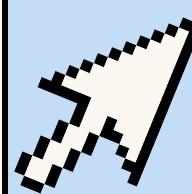
**chad competitive
programmer**

BREEZES THROUGH
INTERVIEWS, OAS

BITMASKS, SEGMENT TREES,
BINARY LIFTING, HEAVY LIGHT
DECOMPOSITION



**Knockout
tournament
soon btw!**





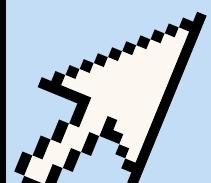
COMPETITIVE PROGRAMMING SUB-SIG

Websites: [Codeforces](#), [CodeChef](#), [AtCoder](#)

Resources: USACO Guide, CSES (Handbook + Problemset),
[cp-algorithms.com](#), [youkn0wwho.academy](#)

Colin Galen:
<https://www.youtube.com/@ColinGalen/videos>

DSA: Leetcode & Striver



DEV & SYSTEMS SUB-SIG

Avoid
Tutorial Hell!

Exposure >>

Web Dev:

Very Basic Stuff: HTML, CSS, JS, Git & Github

Foundation: React + Typescript, Backend: NodeJS, Go, Python etc.

Databases: NoSQL (MongoDB), SQL (Postgres), ORMs, Database Migrations,

Authentication: JWT Auth, OAuth 2.0

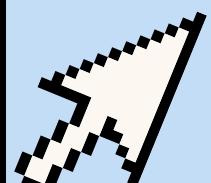
More Stuff: Websockets, GraphQL, gRPC, WebRTC, Deployment, Monorepo/
Turborepo, Microservices, Message queues & brokers (RabbitMQ), Event streaming
(Kafka)

App Dev:

Client-side: Flutter, React-native, Swift(iOS)

Server-side: Firebase, Kotlin

Reddit >>



DEV & SYSTEMS SUB-SIG

Devops:

Foundations: Linux Filesystem, Shell Scripting (Bash), Core CLI Utilities (grep, awk, sed, find, curl), OSI Model, TCP/IP Suite (TCP vs. UDP), DNS, HTTP/HTTPS & SSL/TLS, Load Balancers & Reverse Proxies (Nginx), Firewalls & Security Groups, Git & Github

IaC: Ansible, SaltStack, Terraform

Cloud Providers: AWS (IAM, VPC, EC2, S3, RDS), Azure (Azure AD, VNet, VMs, Blob Storage, Azure SQL), Google Cloud Platform (GCP) (IAM, VPC, Compute Engine, Cloud Storage, Cloud SQL)

CI/CD:

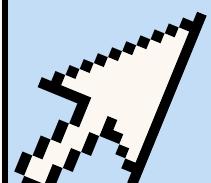
Jenkins, GitOps, Github Actions

Containers & Orchestration:

Containers, VMs, Hypervisors, Docker, Kubernetes (CLI, CNI, Helm etc)

Observability & Monitoring:

Prometheus, Grafana, ELK Stack (Elasticsearch, Logstash, Kibana)



DEV & SYSTEMS SUB-SIG

Operating Systems

"Dinosaur Book" : Operating Systems Concepts – ABRAHAM SILBERSCHATZ

Operating Systems: Three Easy Pieces – Remzi & Andrea

The Linux Programming Interface – Michael Kerrisk

Building a Modern Computer from Scratch – <https://www.nand2tetris.org/>

Compilers

Engineering a Compiler (Cooper and Torczon)

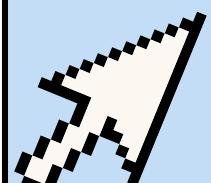
Crafting Interpreters: <https://craftinginterpreters.com/>

Networks

Youtube: Network Chuck, Practical Networking

Beej's Guide to Networking Concepts

Mohit Sir's PPTs from CS seniors!



DEV & SYSTEMS SUB-SIG

Web Dev Resources (just use docs):

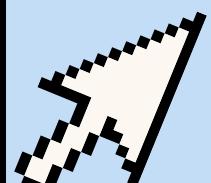
MDN Docs, React docs, Dave Gray YouTube playlists, FreeCodeCamp,
Node.js docs, Express.js docs, JWT docs

DevOps Resources:

Docker: Docker deep dive book by Nigel Poulton
Kubernetes: Kubernetes deep dive book by Nigel Poulton
Git: Pro Git by Chacon and Straub

Kernel Dev Resources:

eBPF: eBPF docs, Getting Started with eBPF youtube video from the Linux Foundation



MACHINE LEARNING SUB-SIG

Machine Learning

Andrew Ng Machine Learning Specialisation available on coursera.

Blogs by [Machine Learning Mastery](#)

Blogs on [Towards Data Science](#)

CampusX playlist [Playlist Link](#)

Online ML League 2024 25 sessions: [Playlist Link](#)

Surf Kaggle for basic datasets and try implementing.

Deep Learning

Andrew Ng Deep Learning Specialisation available on Coursera.

Blogs by [Machine Learning Mastery](#)

Blogs on [Towards Data Science](#)

CampusX playlist [Playlist Link](#)

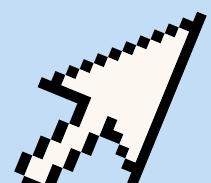
Online ML League 2024 25 sessions: [Playlist Link](#)

Surf Kaggle for basic datasets and try implementing.

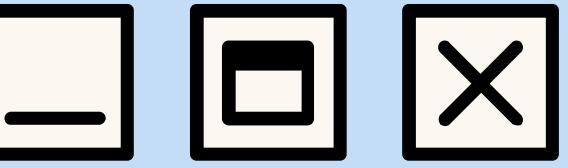
J Alammar Blog - Transformers and NLP ([Link](#))

Transformer from Scratch ([Video](#))

Andrej Karpathy ([Channel](#))



STUFF TO LOOK OUT FOR



NITK Specific:

WEC Club, IRIS, COSH (Centre for Open-source Software and Hardware), Projects under Dr. Mohit P Tahiliani, IETF (Internet Engineering Task Force) (Seniors at IETF Madrid 2025 with Dr. Mohit P Tahiliani btw)

CTFs:

Binary exploitation, Cryptography, Forensic Analysis, Reverse engineering, OSINT, Networking

Resources: [CTF-Inventory](#), [PicoCTF](#), [CTFTime](#)

Open Source:

GSOC, GSSOC, LFX, MLH etc.

[List Of Programs](#)

Hackathons:

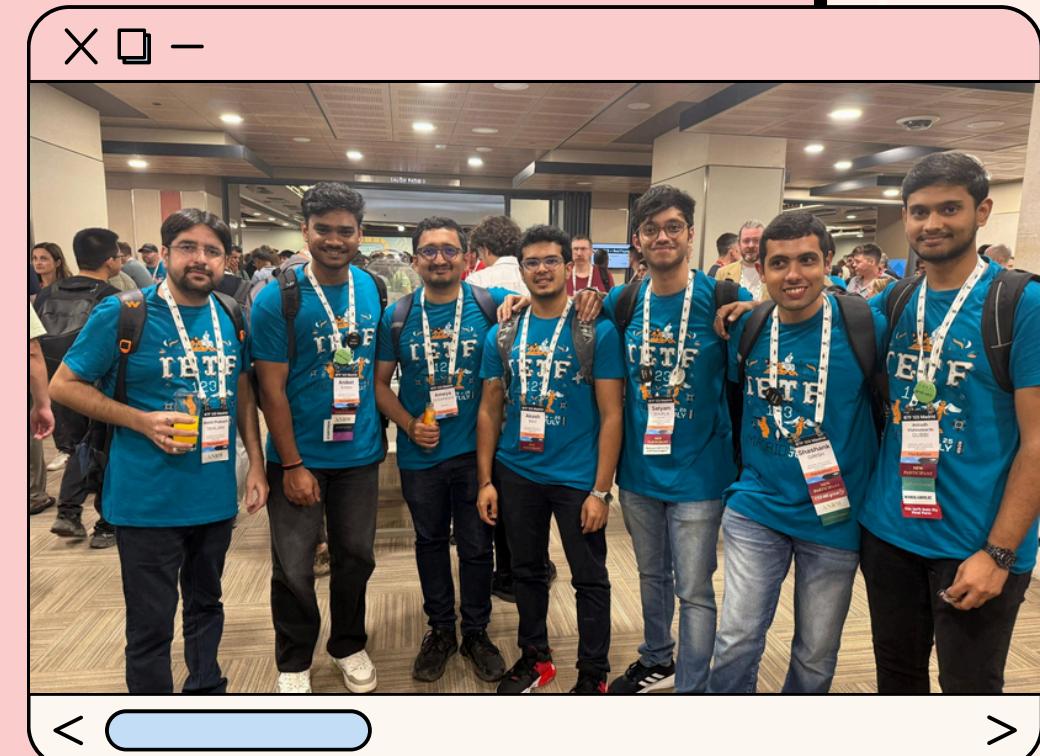
Web3 & Agentic AI
HackClub NITK, ETH

Other Cool Stuff:

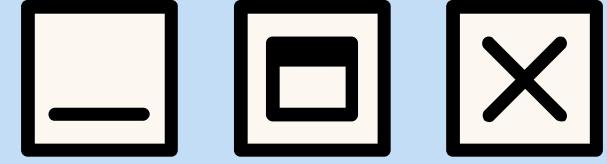
[Project-Based-Learning](#)

[Build-Your-Own-X](#)

Join Discord & Reddit Communities!



PLANS THIS YEAR



Projects For 1st Years!

Year Long Projects (Project Proposals soon)

Sangamitra (Earlier from 2025 onwards)

ACM Website Work

Knockout Tournaments + Year Long Leaderboard

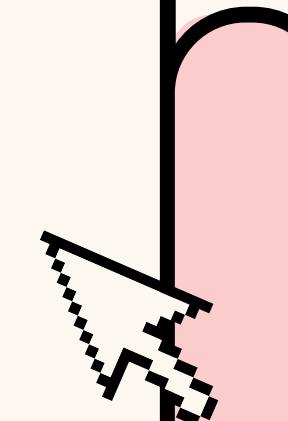
CTFs/Hackathons

We're still cooking more events!

OOO WHAT DO WE EXPECT FROM YOU

TO HATE
MEDIOCRITY

:P





FEEL FREE TO CONTACT

Competitive Programming: Purav, Parikshith

Systems: Utsav, Rijul, Parikshith

Dev: Mihir, Sanjeev (IRIS Tech Lead) , Vishak (IRIS Head Of Dev) ,
Shashank Jain

Machine Learning: Bhuvanesh, Kailash, Rushil

