Anish **Mukherjee**

Software Developer · Open Source Enthusiast

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Education

Indian Institute of Technology Roorkee

Roorkee, India

B.Tech in Mechanical Engineering

June. 2016 - May 2020

- Cumulative Grade Point Average, CGPA: 7.823/10

Experience

Backend and DevOps Engineering

Bangalore

Software Engineer (Analyst) at **Goldman Sachs**

August. 2020 - Present

- Worked on developing Java servers with Vertx, Spring Boot and RxJava2.
- Used MongoDB and DB2 as databases along with apache geode as cache and elastic-search as a search engine.
- CI/CD with GitLab, Terraform and Kubernetes.

CI/CD with Kubernetes, Terraform and GitLab

Bangalore

Summer Intern at **Goldman Sachs**

May. 2019 - July. 2019

- Worked on Optimus which is a RPA (Robotic Process Automation) as a Service.
- Migrated the development and production infrastructure of Optimus from plain Virtual Machines to Terraform and Kubernetes.
- Wrote a Terraform resource file to create a cloud-compute-resource for the Kubernetes cluster to run on.
- Created Kubernetes deployments for each of the 3 microservices in Optimus and scaled them using horizontal-pod-autoscalers.
- Created Kubernetes services for load-balancing between the multiple pods in each of the deployments with an ingress controller.
- Created GitLab pipelines to automatically compile code, build docker images and deploy to the Kubernetes cluster.

CI/CD with Jenkins and BitBucket

Bangalore

DevOps Intern at **Elanic**

May. 2018 - June. 2018

- Created an automated pipeline using Jenkins for testing the source code in the production branch of Elanic's BitBucket repository. The tests were triggered by BitBucket webhooks and were carried out inside lightweight docker containers.
- If the tests pass, the deployment machine uses secure shell (SSH) to login into the staging or production servers specified by user input, fetches the latest source code via git and gracefully restarts the servers. This process is parallelized for faster deployments.

Extracurricular Activity

SDSLabs

IIT Roorkee

Joint Secretary

Jan. 2017 - May 2020

- SDSLabs is a group of developers and designers promoting technical activities in the campus.
- Regularly conducted hackathons, public lectures and competitions to foster the technical culture in the campus.
- Responsible for maintaining current applications and UNIX servers.

Google Code-in 2017

Work from Home

Mentor at **coala**

Dec. 2017 - Feb. 2018

- Created 2 tasks for Google Code-in participants with the difficult tag low and 1 task with the difficulty tag medium.
- Mentored students, resolved their queries and reviewed their work within 36 hours.

Google Code-in 2018

Work from Home

Mentor at **coala**

Oct. 2018 - Dec. 2018

- Created 1 task for Google Code-in participants with the difficulty tag medium.
- Mentored students, resolved their queries and reviewed their work within 36 hours.

Achievements

2018	**Among the top 3 teams**, Microsoft Code.Fun.Do Qualifier Round	*IIT Roorkee*
2018	**Winner**, Microsoft Code.Fun.Do OnCampus Round	*IIT Roorkee*
2018	**Finalist**, Microsoft Academia Accelerator Showcase	*All India*
2018	**Winner**, Matic API prize at InOut 5.0	*All India*
2018	**Winner**, CodersBit 2018	*All India*
2019	**Winner**, Microsoft Code.Fun.Do++ OnCampus Round	*IIT Roorkee*
2019	**Runner Up**, Optum Stratethon	*All India*
2019	**Gold Medalist**, Inter IIT Tech Meet 8.0	*All India*

Projects

Gasper

IIT Roorkee

SDSLabs *Sep. 2018 - Nov. 2019*

- Gasper is a PaaS written in Golang used for deploying and managing applications and databases in any cloud topology.
- The types of applications supported are Python, PHP, Node.js, Golang and Ruby.
- The types of databases supported are MySQL and MongoDB.
- It is engineered on microservices architecture and uses Docker for the containerization of the applications and databases.
- It can orchestrate application life-cycles on multiple Bare-Metal servers and Virtual Machines simultaneously.
- It has a master service which acts as a central registry keeping track of all other microservices, applications and databases.
- The master service distributes workload equally among all microservices while also performing regular health checks and removing dead instances from the cloud ecosystem.
- gRPC protocol is used as the internal communication mechanism between microservices with a key based end-to-end authentication.
- Gasper provides a DNS service for application hostname resolution and a reverse-proxy service for mapping application hostnames to their respective container's IPv4 address and port.
- It also provides SSH access to application docker containers and a browser terminal instance of your container's root shell.
- Project can be viewed at **https://github.com/sdslabs/gasper**.

Alpha Chat

IIT Roorkee

Chat Application *May. 2017*

- A chat application written purely in C language using the Berkeley Sockets API.
- Its features include viewing all connected users, sending a private message to a specific user and broadcasting a message to all connected users.
- The server also keeps a track of users connecting and disconnecting.
- Project can be viewed at **https://github.com/alphadose/Alpha-Chat**.

LimeLight

IIT Roorkee

Microsoft Code.Fun.Do++, Android App *Oct. 2018 - Jan. 2019*

- LimeLight is a disaster management ecosystem to locate victims and co-ordinate operations among rescuers.
- It comprises an android application which runs a background service to update a central server with the victim's location and this location is broadcasted to all rescuers.
- If the victim has no internet connectivity, the victim's location is transmitted to another device within 60m via WiFi Direct Connection which runs as a background service. That device will send both of their locations to the central server provided it has internet connectivity or else the process would continue.
- This application forms a network of interconnected devices via WiFi Relay Channels for exchanging locations of both victims and rescuers among peers.
- The locations of victims and rescuers will be rendered on a Google Maps Interface.
- The ecosystem also utilizes a Parrot AR Drone 2.0 for collecting victim locations via WiFi Direct and transmitting the data to rescuers when in proximity. This forms a delay tolerant network.
- Project can be viewed at **https://github.com/CurlSudoBash/LimeLight**.

Synchron

IIT Roorkee

Microsoft Code.Fun.Do, Web App *Feb. 2018*

- Synchron is a web application which provides the experience of Karaoke in Virtual Reality.
- It is multiplayer in nature and the music player shared between all users in a virtual room is synchronized i.e playing songs , pausing etc occurs at the same time across all systems in that room.
- Voice streaming among all users in a virtual room is done with peer-to-peer connections to reduce the load on server.
- All users can view each other's avatars in the room as well as use voice commands to control the music player.
- The songs are played with the 3D surround sound effect to provide a true Karaoke experience.
- Project can be viewed at **https://github.com/alphadose/synchron**.

Skills

Programming	C/C++, Golang, Java, Python, Javascript, Node.js, PHP, SQL, HTML/CSS
Web	Gin with Golang, Express.js with Node.js, Laravel and Toro with PHP, Flask with Python
DevOps	Kubernetes, Terraform, Jenkins
Developer Tools	Git, Android Studio, Vim, Tmux, Postman