

Supratik Das

SOFTWARE DEVELOPER | OPEN SOURCE ENTHUSIAST

☎ (+91-8172003164) | ✉ rick.das08@gmail.com | 🏠 <https://supratikdas.com> | 💻 supra08 | 📁 supratik-das-008 | 🐦 @supradeux

Education

Indian Institute of Technology, Roorkee

Roorkee, India

BTECH IN ELECTRONICS AND COMMUNICATION ENGINEERING

July. 2017 - PRESENT

- Expected May 2021

Skills

Programming	Golang, Javascript/Typescript, Python, Rust, Java, C, C++, PHP, SQL, Bash
Web	Gin with Golang, Express.js, ReactJS, VueJS and Node.js with Javascript, Laravel and Toro with PHP, Flask and Django with Python
Technologies	Docker, Kubernetes, Terraform, AWS Firecracker, Hashicorp Nomad, Screwdriver.cd
Developer Tools	Git, Vim, Emacs, Tmux, Postman

Experience

Google Summer of Code with Continuous Delivery Foundation (in Screwdriver.cd)

Remote

STUDENT DEVELOPER

June 2020 - Aug 2020

- Incorporated the generation and use of deploy keys in the pipeline building flow.
- Added support for handling webhooks from external SCM repositories and selectively choosing pipeline jobs.

American Express

Gurgaon, India

SOFTWARE DEVELOPER INTERN

May 2020 - July 2020

- Worked on developing service classes for microservices with datastore interaction.
- Proposed a new testing framework Groovy as a replacement for JUnit.
- Developed a code-crawler application as a part of internal hackathon with performance enhancements using multithreading and effective use of LRU caches.

Bolo

Bangalore, India

SOFTWARE DEVELOPER INTERN

May 2020 - July 2020

- Developed a cloud recording microservice for a peer-to-peer WebRTC session.
- Developed a chat infrastructure service which uses Socket.IO and FCM. Used NodeJS's Cluster library for concurrent socket management.

Projects

Gasper - Intra Campus Deployment Services

IIT Roorkee

SDSLABS

Oct 2018 - PRESENT

- Gasper is a PaaS tool written in Golang used for deploying and managing applications and databases in any cloud topology.
- It is engineered on microservices architecture and uses Docker for the containerization of the applications and databases. gRPC protocol is used as the internal communication between services.
- Developed the core deployment pipeline for databases and apps.
- Developed a metrics exporter and collector with a web based visualizer. Also developed an internal reverse-proxy server.
- Project can be viewed at <https://github.com/sdslabs/gasper>.

Katana - Cloud Based Attack Defence CTF Platform

IIT Roorkee

SDSLABS

Oct 2019 - PRESENT

- Katana is an attack defence CTF platform with a cloud based deployment infrastructure inspired by Kubernetes and DEFCON CTF patterns. Designed the complete architecture.
- Developed the standard CLI interface for deploying the services.
- Developed the microVM cluster deployer with managed networking and challenge applications deployment pipelines.

Portkey - QUIC+WebRTC based file transfer tool

IIT Roorkee

SDSLABS

May 2020 - July 2020

- Worked on developing a P2P file transfer tool with webRTC over QUIC protocol.
- Implemented file chunking and multi-stream transmission.

Accounts - Oauth2 Authentication System

IIT Roorkee

SDSLABS

Jan 2019 - Aug 2019

- Accounts is an in-house multi-provider OAuth-2 based authentication framework.
- Worked on improving the OAuth flow and security auditing and developed a Golang based Oauth-2 Client for use as middlewares.

Wifi Device Probing Tool

IIT Roorkee

COMPUTER NETWORKS SEMESTER PROJECT

Sep 2019 - Dec 2019

- Developed a tool written in python to monitor devices in the vicinity of the operating device by capturing wifi signals.
- Uses tshark under the hood to capture Wifi probe requests, eliminating same network restrictions.
- Also generates a proximity history graph with device info and mac address based on the strength of the wifi signals.

Muzi - Music Streaming Web Application

IIT Roorkee

SDSLABS

Mar 2018 - July 2018

- Muzi is a music streaming application deployed internally in the campus. The UI client is written in ReactJS and the backend in Laravel.
- Enhanced the application with features like Elasticsearch and song downloader and indexer service with a redis based task queue.

Jotunheim - Bittorrent based docker registry and image boot

PERSONAL PROJECT

September 2020 - PRESENT

- Developed an experimental docker image registry to support the Bittorrent protocol for fast image pulls and container deploys.
- Implements a union filesystem for realtime mounting and booting of images.

Achievements

2020	1st Place , CipherText CTF by Nullcon	All India
2020	1st Place , HAB59 Hackathon 2020 - Lead and mentored the team	All India
2019	Gold Medalist , Inter IIT Tech Meet 8.0 - Coding Hackathon	All India
2019	1st Place , UST Global D3code Hackathon	All India
2019	3rd Place , Cisco SecCon APJC CTF	All India
2019	4th Place , BrainWaves CTF	All India
2019	Finalist , Smart India Hackathon	All India
2018	Winner , Hasura sponsored prize at Syntax Error Hackathon	IIT Roorkee
2018	Finalist , InOut Hackathon 5.0	All India

Societies and Groups

SDSLabs

IIT Roorkee

JOINT SECRETARY

Jan 2018 - PRESENT

- Regularly conducted hackathons, public lectures, and competitions to foster the technical culture on the campus and mentored freshmen and sophomore students.
- Responsible for maintaining current applications and server management.

InfoSecIITR

IIT Roorkee

SENIOR MEMBER

Jan 2018 - PRESENT

- Active member and CTF player of InfoSecIITR team, with a focus in web security.
- Created challenges for cybersecurity competitions aimed at freshmen.
- Involved in organizing meetings and workshops related to information security.

Open Source Activity

Keptn - Kubernetes based Continous Integration/Continuous Operations

MAINTAINED BY DYNATRACE AND CNCF | [HTTPS://GITHUB.COM/KEPTN/KEPTN](https://github.com/keptn/keptn)

- Worked on developing pre-operation checks in the CLI using PING and remedial solutions.
- Added mTLS in the CLI and implemented proper credential management for multiple plans like AWS, gCloud or local Kubernetes.

Cloud Native Buildpacks

MAINTAINED BY HEROKU/SALESFORCE, PIVOTAL AND CNCF | [HTTPS://GITHUB.COM/BUILDPACKS](https://github.com/buildpacks)

- Developed the buildpacks registry on the lines of rust-crate registry and implemented various publishing schemes in the CLI.

OWASP Juice Shop

MAINTAINED BY OWASP | [HTTPS://GITHUB.COM/BKIMMINICH/JUICE-SHOP](https://github.com/BKIMMINICH/JUICE-SHOP)

- Developed security challenges to be embedded in the web-app. One of my challenges was ranked the highest rated.