Ayan **Choudhary**

PROGRAMMER · SOFTWARE DEVELOPER · CLOUD AND KERNEL ENTHUSIAST

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Education

Indian Institute of Technology Roorkee   *Roorkee, India*

B.TECH IN ELECTRICAL ENGINEERING   *June. 2018 - PRESENT*

• Cumulative Grade Point Average, CGPA: 8.645/10

Experience

Accessibility Improvements and Internationalization   *Work from Home*

GOOGLE SUMMER OF CODE AT **CREATIVE COMMONS**   *June. 2020 - Aug. 2020*

• Conducted accessibility audits for the CC Search website using tools such as **Lighthouse** and **Accessibility Insights**.
• Conducted tab index audits using Accessibility Insights tab-index audit tools and **Pa11y**.
• Made accessibility improvements(redesigning certain interactions and changing configuration for interactive elements) to CC Search.
• Internationalized the CC Search website and setup CI workflow for future accessibility audits before integration.
• Automated the internationalization process by setting up automation tasks with **Github Actions** and **Transifex API**.

Development of Virtual Expo Infrastructure   *Work from Home*

PROJECT ENGINEERING INTERN AT **EXIKONNECT**   *July. 2020 - September. 2020*

• Created a virtual exhibition system using **Unreal Engine 4** where people can visit an online expo virtually.
• Managed cloud systems for the software and handled project management along with deployment on **AWS Gamelift** instance.
• Setup multiplayer interaction functionalities and worked on the world design and architecture.
• Automated world generation and setup quick deployment pipeline of the expo and setup **Terraform** for AWS integration.

Adobe API Samples Development   *Work from Home*

MLH FELLOWSHIP **ADOBEDOCS**   *Feb. 2021 - April. 2021*

• Developed plugin samples for **Adobe Photoshop** and **Adobe XD** that demonstrated use of the **Adobe UXP APIs**.
• Upgraded the manifest systems for the existing plugins from v3 to v4 and changed plugins to follow the newer version.
• Made significant contributions to the Adobe community to make the plugins more presentable to developers.

System Integration with MS Teams and Dataverse   *Work from Home*

SUMMER INTERN AT **MICROSOFT**   *June. 2021 - July. 2021*

• Developed an integration system which acts a backup service for messages from **MS Teams** to **Dataverse**.
• Configured a serverless system built using tools from the Microsoft ecosystem such as **MS Flows** and **Azure Function Apps**.
• Ensured configurability of the service with different MS services and worked on its supportability.
• Enhanced reportability by integrating with **Application Insights** and leveraging **Power BI** to generate usage reports.

Projects

Rustic OS   *IIT Roorkee*

SDSLABS   *Dec. 2020*

• Rustic OS is our attempt at a minimalistic OS with a **modular kernel** written completely in **Rust**.
• Developed a working kernel sample that currently handles interrupt signals and all the known system faults.
• Implemented the memory management system and added a rudimentary threading system for background processing of async tasks.
• Currently working on implementing the syscalls and scheduler for the processes to have a basic process execution system.
• Source code available at **https://github.com/sdslabs/rusticos**.

Studyportal   *IIT Roorkee*

SDSLABS   *Mar. 2019*

• Studyportal is a **resource sharing platform** built for IIT Roorkee students to share study materials over the campus internet.
• Developed the **ReactJs** frontend for the web-application to facilitate resource exchange with state management using **Redux**.
• Implemented the **django-drf** backend with REST API based communication architecture.
• Designed the file storage architecture using **Google Drive API** integrations to store, manage and retrieve files.
• Containerised the application using docker for service management of the **websocket**, **redis** and **elastic search instances**.
• Integrated **Github Actions** as the **CI pipeline** and also runs the automation tests for the application.

Beast   *IIT Roorkee*

SDSLABS   *Mar. 2019*

- Beast is a **cloud service** that helps manage deployment, lifecycle, and health check of **Jeopardy-style CTF challenges**.
- Worked on making the challenge management pipelines more robust and atomic to address deployment errors.
- Implemented the challenge deployment pipeline for deploying a challenge directly from a zip file.
- Decoupled container runtime to enable smooth transition from **Docker** to **Containerd** using a **Shim-API layer**.
- Source code available at **https://github.com/sdslabs/beast**.

InstaVote   *IIT Roorkee*

MICROSOFT CODE.FUN.DO++ SUBMISSION   *Aug. 2019*

- InstaVote is a **decentralised** electronic voting system built using **Solidity** and **web3.js** for smart contract management.
- Developed voting contracts with **Truffle Suite** running on **blockchain** system hosted on the **Azure Ethereum Workbench**.
- Configured central server for a highly secure facial recognition login system powered by **MS Azure face API**.
- Independant admin panel to supervise the election process and interacts with the blockchain and the central servers.
- Source code available at **https://github.com/sudo-rm-force/InstaVote**.

Achievements

2019   **Winner**, Microsoft Code.Fun.Do++ OnCampus Round   *IIT Roorkee*

Skills

Programming	C/C++, Java, Go, Rust, Python, Javascript, Solidity, Coffeescript, HTML/CSS, Ruby on Rails, Handlebars
Web	ReactJs, VueJs, Express.js with Node.js, Toro with PHP, Flask and Django with Python
Native and Cross Platform	React-Native, Android, Flutter, Android, Electron
Database and Storage	MongoDB, PostgreSQL, SQL, Firebase, MySQL, GraphQL, Google Drive API
DevOps	Kubernetes, Azure Ethereum Workbench, Docker, Azure, AWS
Developer Tools	Git, Android Studio, Vim, VSCode, Sublime, Robo3t, Nodemon, Postman, WebStorm

Extracurricular Activity

SDSLabs   *IIT Roorkee*

JOINT SECRETARY   *Jan. 2019 - PRESENT*

- Regularly conducted hackathons, public lectures, and competitions to foster the technical culture on the campus.
- We build applications, conduct hackathons and Winter of Code for improving the coding culture in IIT Roorkee.
- Mentored freshmen students in their projects for the Winter of Code program and also helped improve the technical culture in the campus.

CC Search   *Creative Commons*

CORE-COMMITTER   *June. 2020 - April. 2021*

- Conducted accessibility audit tests and improvements in CC Search and for UI components.
- Internationalised the CC Search website using vue-i18n and Transifex and added API feature for showing recommendations.
- Created pipeline to ingest image data from Met Museum API using Apache Airflow.

SPARK Web Development   *IIT Roorkee*

SENIOR DEVELOPER   *June. 2020 - PRESENT*

- SPARK Web Development develops and maintains the website for SPARK(the summer internship programme of IIT Roorkee).
- Made performance improvements and configured site analytics along with cloud setup of the present website.
- Responsible for maintaining current application and server management with a peak load of 20000 concurrent users.