

# Pranab Singh

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## EDUCATION

### MEGHNAD SAHA INSTITUTE OF TECHNOLOGY

Bachelor in Computer Application

June 2020 | Kolkata, India

Cum. GPA: 8.2 / 10

### CALCUTTA PUBLIC SCHOOL

High School

Grad. May 2016 | Kolkata, India

Percentage: 83.25 / 100

## LINKS

Github:// [pranabs1ngh](#)

LinkedIn:// [pranabs1ngh](#)

Twitter:// [@pranabs1ngh](#)

## COURSEWORK

### UNDERGRADUATE

Design and Analysis of Algorithms

Data Structures with C

Database Management Systems

Computer Architecture

Operating Systems

Computer Graphics

Computer Networks

Unix and Shell Scripting

## SKILLS

### PROGRAMMING

General:

Database • Algorithms • Server Side Programming

Languages:

C • C++ • Python • HTML • CSS

JavaScript •  $\text{\LaTeX}$

Tools / Framework:

NodeJs • django • ReactJs • Redux

Docker • Kubernetes • React Native

MySQL • MongoDB

## PROJECTS

### FLOCK | Full Fledged Native Messaging Application

Sept 2019 - Present

- Developed all screens with React Native based on reusable components architecture
- Implemented peer to peer instant messaging using web sockets protocol
- Implemented group messaging feature
- Implemented Audio and Video Call using WebRTC
- Wrote server using micro-services architecture
- Created server and micro-services in Docker based containers
- Implemented load balancer using Kubernetes (for multiple server instances)
- Created a basic messaging queue from scratch
- Implemented MQ and Authentication service using serverless functions (AWS Lambda / Google Cloud Functions)
- Enabled end-to-end encryption using RSA encryption method

### QUIVIA | Quiz Game with single/multi-player options

July 2019 - Aug 2019

- Developed all screens using React based on reusable components architecture
- Wrote Screen Update logic based on current game state
- Implemented user authentication using google/facebook OAuth or local authentication
- Used socket.io to transfer data between two players
- Wrote algorithm to maintain socket rooms and match players for a game with specific id
- Developed a simple bot to play with the user in case the server can't find an opponent to play with

### SUDOKU SAGA | Native Sudoku Application

Sept 2019 - Oct 2019

- Developed all screens using React Native based on reusable components architecture
- Wrote a backtracking algorithm from scratch to generate a sudoku board
- Hid number of cells based on difficulty level selected by user
- Implemented undo / erase / pencil / hint features from scratch
- Created a fully functional native app in React Native
- Built with reusable components based on React App Architecture