

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 and Systems Software

Operating Systems

Computer Graphics

Unix and Shell Scripting

SKILLS

PROGRAMMING

General:

Database • Algorithms • Server Side Programming

Languages:

C • C++ • Python • HTML • CSS

JavaScript • \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 over 100,000 questions

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

- 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

AWARDS

2014	top 52/2500	KPCB Engineering Fellow
2014	1 st /50	Microsoft Coding Competition, Cornell
2013	National	Jump Trading Challenge Finalist
2013	7 th /120	CS 3410 Cache Race Bot Tournament
2012	2 nd /150	CS 3110 Biannual Intra-Class Bot Tournament
2011	National	Indian National Mathematics Olympiad (INMO) Finalist