

# Shubham Raj

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## Software Developer

### EXPERIENCE

#### **COMMONWEALTH BANK OF AUSTRALIA (EXCELIAN) | KDB+ DEVELOPER**

TECH STACK - KDB+, Q, KX TOOLS, PYTHON

April 2020 – Present | Bengaluru

Automated Trade Surveillance | Team size : 15

- Develop algorithms to generate trading alerts based on certain benchmarks and rules.

#### **HSBC ELECTRONIC DATA PROCESSING INDIA PVT LTD | KDB+ DEVELOPER**

TECH STACK - KDB+, Q, PYTHON, HTML, JS

June 2018 – April 2020 | Bengaluru

Report Utility Tool | Team size : 1

- The challenge of managing quant reports was tackled by unifying them by developing Report Utility Tool.
- Both automated and adhoc flow were managed under this tool.
- Capability to pass custom parameter was implemented.
- Product was made asynchronous by publisher-subscriber model.
- LDAP based authentication added to the system.

THOR Stress Test Integration | Team size : 2

- Stress testing feature was added to HSBC's execution algorithm back tester - THOR
- Reuter Historial data was fetched through the TRTH api.
- THOR was rewired to new data source.
- TCA was written to compare between Simulations.

Market Microstructure | Team size : 1

- Monthly and Daily Market Statistics were calculated from historical database and displayed.
- Load-balancer was designed to regulate the incoming traffic.
- Cache layer was introduced and HTML frontend was designed later to which data was published.
- Logic was written to handle historical database restarts.

BACCS - Capital Commission System | Team size : 2

- Capital commission system was centralized under BACCS, a program to manage subroutines.
- Features like user authentication, ticker onboarding, Risk book management and PNL calculations were implemented.
- Weekly status update was configured for performance tracking.

#### **TREEBO HOTELS | SOFTWARE DEVELOPER**

TECH STACK - PYTHON (DJANGO, FLASK), POSTGRES

June 2017 – June 2018 | Bengaluru

Inventory Throttling Service | Team size : 5

- In order to get control on the inventory we are selling the inventory was throttled with reference to certain rules.
- Project was done in two parts Push and Pull.
- APIs were written to pull inventory for channels that doesn't support rule push feature.
- My role : Flow from listening to the pushed rule queue to pushing the rule to Maximojo, including the validation and tracking metrics.

Travel Agent Automation | Team size : 2

- Objective was to automate the corporate booking flow, involving generation of partial payment links, reminding their payment and cancellation of booking if the customer haven't paid upon reminders.
- My role : Automation flow.

#### **ITRON PRIVATE LIMITED | R&D INTERN**

June 2016 – July 2016 | Bengaluru

- Involved designing of an algorithm that estimates the optimal position of collectors and access points of a wireless sensor network, taking in consideration of network constraints.
- Used clustering techniques such as K-Means and MST.
- Made UI for displaying the results on the map using Telerik RadMaps api.

## **SOLARWAALE | WEB DEVELOPER INTERN**

June 2015 – July 2015 | Gurugram

- Developed an online portal displaying all the projects done by the company on an interactive map. The data was extracted from database and Google Maps api was used to realize the same.
- Created dashboard that involved authentication for the customers.

## EDUCATION

### **INDIAN INSTITUTE OF TECHNOLOGY | B.TECH IN ELECTRONICS AND COMMUNICATION ENGINEERING**

May 2013 - May 2017 | Roorkee, UK • CGPA: 69%

### **DELHI PUBLIC SCHOOL | SCIENCE**

Batch of 2013 | Bokaro Steel City, JH

X CGPA : 98% • XII CGPA : 89%

## PROJECTS

### **AGRICULTURE INFORMATION SYSTEM | B.TECH PROJECT**

July 2016 - May 2017 | Indian Institute of Technology, Roorkee

- Objective was to implement password hardening in the AIS authentication system.
- JAVA application was made to implement the above by capturing behavioural biometrics such as : typing speed, inter key pattern to characterize each user.
- Latter the characteristic adapted on every successful login.

### **3D LASER SCANNER | SHRISTI 2014**

July 2015 - Dec 2015 | Indian Institute of Technology, Roorkee

- Objective was to create a 3D model of given specimen.
- 3D laser scanner was made using line laser, a webcam, a stepper motor and an arduino.
- The data collected was processed in matlab to generate a 3D model.

## LANGUAGES

### **PROGRAMMING**

Over 5000 lines:

KDB+/q • Python • Java • HTML

Over 1000 lines:

C++ • CSS • C# • q • JS • MySQL •  $\LaTeX$

Familiar:

Android • MATLAB

### **SPOKEN & WRITTEN**

Native fluency:

English, Hindi Reading fluency:

Sanskrit

## EXTRA CURRICULAR

### **MICROSOFT CODE.FUN.DO**

- Actively participated and qualified four consecutive hackathon.

### **SPIC MACAY | IITR**

- Designed the official website of SPICMACAY IIT Roorkee Chapter.
- Wincon 2015 : On December 2015 SPICMACAY IIT Roorkee chapter organised a 7 days convention Winter national convention in which 1200 delegates from all over India came to witness the event. I being the part of the registration team was responsible for registering delegates, assigning them IDs and sending them regular emails related to event. These were done through Python scripts.