RAHUL RAMTEKE

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SOFTWARE ENGINEER (By Day)

CREATOR/ARTIST/THINKER (By Night)

GIST

Through childhood and adolescence, I have always been about making things. Be it little toys from carboard or 2D games in my school's computer lab.

I have worked in different technologies, worked for a tech non profit, tried my hands at my own startup, built fundamental architecture and pipelines at my first company. All in all, I have learnt and I have built, and I have loved every aspect of it.

And when I am not learning and building, I am writing. I love to share and teach. Enabling people to add value makes me immensely happy.

EDUCATION

School:
Ramjas School, Karol Bagh, New Delhi

College:
BTECH in Software Engineering from DELHI TECHNOLOGICAL UNIVERSITY

CONTACT INFORMATION

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PERSONAL ACHIEVEMENTS

Part of team which won GITEX 2014

Leaf Labs was my first experience in a startup. It invloved creating a safety device which could track the wearer and alert authorities when needed.
My role was to create a prototype android application which can be used to track the phone even without internet.

Amethyst Labs

I started this project/company with my batchmates. It involved creating a fallback hyperlocal but decentralized network. It's applications varied from P2P music sharing to heavy analytics on an area like metro station.

SPECIAL SKILLS

- **Proficient in JavaScript and Node**
  - I have worked on multiple projects which required in-depth knowledge of inner workings into JS and Node, such as:
    - A recursive proxy
    - Integrating with Rust to make thread blocking code async!
    - Wrote a custom scheduler to optimize server costs

- **A polyglot programmer**
  - I have worked on and tried many languages:
    - JavaScript, Scala, JAVA, Python, Go, Crystal

- **Architecture and Design**
  - There's nothing I enjoy more than writing terse code built atop scalable and generic architecture.

- **Functional Programming**
  - A true believer of functional paradigm
  - Read, learnt and took sessions on category theory

- **Processing**
  - Creating art using code is one of my favorite past times.

EXPERIENCE

Khatabook

SDE-III, 2019-2022

- Built payments platform
  - The idea was to handle payments in-house, wherein a user can request money through a payment link, and another user can pay via any mode.
  - Built a double entry accounting based layer(entirely postgres driven!) around our system to maintain the sanctity of data. No extra money sent or received!
  - I scaled the system to be more malleable such that it enables any use case we as a company might think of implementing. Say, buying gold, sending money P2P, rewards!
  - Started with 3 people in the team which allowed me to work on and own many aspects of the system. After two years, the team grew to a size of 5 and I had the fortune of leading and managing my team.
  - Khatabook targets Tier 2/3 cities of India, where all the assumptions around internet availability, app usage habits and common UX practices fail. This was infused into us from day 1 and the system had to support for an experience which doesn't fail them. For example:
    - Localization and translation support down to every character.
    - Letting the user make mistakes and minimizing negative reinforcement as much as possible.
    - The system simply can't fail when other people's money is involved. But when it does, actively inform users and assure them that the money is safe with us.
  - Handled code architecture, what components to have, where to have them, what to expose so it doesn't overwhelm the team.
    - I got the opportunity to work on the layer which will be heavily used by the team to further build/enhance the platform.
    - This required major focus on documentation along with the layer being easy to use and easy to modify.
- Set up AB experiments service
  - This service allows one to kickstart an experiment on app.
- Setup internal node registry
  - Setup flow to quickly onboard team and start adding internal packages.
  - This enabled use cases where private packages could be used across the company, helping uniformity and re-usability.

Shipsy

SOFTWARE ENGINEER, 2017-2019

- Revamped mongo data analytics pipeline, made it **twice as efficient**.
  - Heavy index usage and data migration.
  - Used latest features of mongo, like facets etc.

- Built a scalable **architecture to handle multitenancy**
  - Our old service was a mess and to scale it would have required huge amout of efforts.
  - After some research, I decided on **NestJS**, and built the service from scratch.

- Setup **error monitoring pipeline**
  - Our organisation lacked a central place to monitor errors and hence limited our ability to react to them.
  - I setup **Sentry** and integrated it into our services to solve this problem.

- Pushed for adoption of TypeScript
  - Going through the original code made me realize the value of type safety.
  - We had bugs in production which could have been easily avoided.
  - In light of this, the **service I made was written in TypeScript**.
  - I **actively took sessions** to teach my colleagues about its virtues.

- Built a powerful and abstract data analytics pipeline
  - Inspired by Apache Superset.
  - Designed and built a query builder to handle the scale and be generic at the same time.

Amethyst Labs

COFOUNDER, 2014-2015 (1 YEAR)

- Worked on Android application
- Created the algorithm for a decentralized network using just phones.
- Created the prototype using Scala on Android
- Handled design and face of product

Leaf Labs

INTERN, 2014-2015 (1 YEAR)

- Worked on Android and explored its fundamentals
- Worked on backend for a brief time

INTERESTING PROJECTS

ZEAL

Delving deep inside Node.JS, I wanted to create a public radio service where you login and stream other people's speaker output or broadcast your own audio. The system relied on websockets for streaming purposes and PubNub for broadcasting messages.

Dyna

It's a cheap Jarvis knockoff actually. The system can listen for your commands and obeys accordingly. You can ask it to play music, ask basic question or control your laptop.

Awkward: 450+ stars on Github

A terminal emulator which is based on a very simple idea, JavaScript should be used everywhere including your terminal. The project involved parsing linux command outputs, and applying JS functions on the result

FuncShell: 250+ stars on Github

A different approach but the basic idea is same as Awkward, except this time there's no terminal emulator, just a linux command, and the language is Haskell. I also added plugin support to this project which was difficult and new for me.

Compiler as a Service!

I had a tiny macbook, a huge typescript project , my gaming PC and only one problem. That TS project compilation took 70% of my laptop's memory and I was left with a sluggish development experience. So I offloaded compilation to my PC!
I could code on my laptop, do all other things but when I changed a file's content and saved it, my gaming PC, which I connected to my laptop would compile my project incrementally and seamlessly. One wouldn't even know the compilation was happening in some other machine!

Public Clipboard

It's a tool which captures the data you copied and makes it accessible on your network. Through this project, I worked on BackboneJS and sockets for the first time.