harshyt**goel**

Full Stack Software Engineer

about

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programming

PHP
Hack/PHP
C++
Node/JS
CSS
HTML5

languages

english bilingual
hindi bilingual
german limited
proficiency

summary

An experienced learner and programmer. My approach to tackling new challenges and problems in general is to immerse myself in them, figure out the variables involved and iteratively build to a solution. Enjoy working with any and all tech along with experimental technologies. Capable of building product end-to-end with strong product intuition and product management.

experience

2017–Now **LOOM INC.** San Francisco, California

Full Stack Software Engineer (2017-Present)
Architecting and building core infrastructure along with consumer facing product for Loom. Instrumental in scaling from thousands of users to over 2 million users. Some notable items being:
- Built Loom's notification service end-to-end which allows us to ping people in-app and through push notifications.
- Built Billing infrastructure to allow Loom to accept payments from its users on its way to profitability.
- Build a version of the loom product that does not require any installation yet allows same level of product features.
- Responsible for adding caching infrastructure and graphQL infrastructure to revamp how our clients and server communicate.
- Architected and implemented Loom's first A/B testing framework which allows partial feature rollouts + A/B testing.

Growth Product Manager (2019-Present)
Creating and maintaining various processes around Growth team communication, documentation, tracking and ideation to allow for smooth and effective running of the growth team.
- Heavily involved in Ideation, and primarily responsible for Spec'ing, Documentation, Engineering implementation and post test Data Analysis for Growth Experiments and A/B tests run.
- Responsible for building the growth team's Ideation process and implementing new communication systems and flows to allow for impactful and effective functioning.
- Responsible for team sprint and SCRUM planning and management to allow for an agile team structure.

2015–2017 **FACEBOOK INC.**   Menlo Park, California
Software Engineer
Built out the web infrastructure for several Facebook Messenger products. Major projects include:
- Building a messenger thread/profile deep-linking framework for the m.me/username scheme with a suitable fallback mechanism on both Desktop and Mobile for messenger. Used extensively by businesses for B2C communication with 500 Million hits/Day.
- Implementing cross platform C++ services which create/encode unique Messenger Codes (Messenger's QR code equivalent) for Users/Businesses and conversely scan/identify/decode the same.
  - Also created relevant APIs and endpoints for the Mobile Clients along with integrating the server caching/storage infrastructure.
- Revamped the Facebook Messages Inbox to resemble the Messenger.com interface.
- Implemented a thorough system to check consistency of Messenger User Contacts across the stack that allows devs to track unexplained losses/additions of Contacts across the various backend layers to the client. Built a robust backbone for future alerting and integrity fixer systems to be built on top.
- Implemented comprehensive funnel logging for Messenger Search which allowed quantifiable search performance tracking. This data has allowed Messenger to goal against relevant metrics and improve search performance leading to a decrease in failed searches by 3%.
- Extensive work with creating/modifying/maintaining complex GraphQL + EntSchema(Facebook's internal object relationship mapping layer) architectures and provisioning a plethora of endpoints for clients.

2014–2014 **FACEBOOK INC.**   Menlo Park, California
Software Engineering Intern (3 mos)
Worked on the Ads Infrastructure team. Primarily on the caching system which loads all Ad units from local databases into Memcache.
- My project involved implementing a major rewrite of the task management system to remove dependencies on Zookeeper abstractions and configs and allow Tupperware to handle jobs statically. This allowed for major improvements in efficiency and concurrency.
- The subsequent parallelization of Ad unit loading tasks led to an average of 25% reduction of Total Time taken for a job across all Data Centers.
- Switching the scheduling mechanism led to the reduction of On Run Delays by approx. 60%

| 2013–2013 | **Universität Bremen** | Bremen, Germany |

Research Assistant (3 mos)

Worked on Model-based optimal multi-variable control and optimum controller parameterization for air systems of passenger car diesel engines.

- Implemented the Mathematical Model of the Air system consisting of a system of ODE's in C++ by using suitable techniques for Discretization , Interpolation and Simulation.
- Calculated an Optimal Control for the system using TransWORHP (In-House Toolbox) and achieved lower exhaust emissions without any significant drops in power.

| 2012–2012 | **Indian School of Business** | Hyderabad, India |

Research Assistant (3 mos)

Worked on an Operations Research problem focused on optimizing cab placements throughout a city for maximum revenue and minimum churn.

- Developed a mathematical model to maximize the revenue using linear and non-linear objective functions by relocation of taxis based on predicted customer demand.
- Achieved an increase in revenue up to 16% by the use of Queuing Theory (M/M/s/N models) to model loss of customers.

projects

| 2016-Now | **Riffshop Academy** | San Francisco, CA |

Co-Founder

An online portal focused on teaching musicians heavy metal song-writing.

- Used a combination of growth hacking strategies and community building to amass a loyal combined audience of 50k accross various platforms.
- Built browser based scripts to automate Facebook growth and Reddit visibility
- Studied common traits of video virality and implemented them effectively resulting in multiple videos with millions of views. This resulted in
  - Advertising deals with known brands such as Dollar Shave Club, CB3 Audio, IGN and others.
  - A successful 1-week merchandising trial run which resulted in a profit of nearly 3000$
- I learnt to analyze an Audience, get a feel for their emotional hooks and create relatable content while growing the brand with the reputation as a legitimate musical learning and entertainment resource.

education

| 2013–2015 | **Master** of Science | Indian Institute of Technology, Kharagpur |

Specialization in Mathematics and Computing (Cryptography)

| 2010–2013 | **Bachelor** of Science | Indian Institute of Technology, Kharagpur |

Specialization in Mathematics and Computing