

harshytgoel

web infrastructure engineer

about

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USA

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programming

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

languages

english bilingual
hindi bilingual
german limited
proficiency

summary

Experienced learner and programmer. Enjoy working with server infrastructure and API design along with the occasional jaunt into frontend land.

experience

2015–2017 **FACEBOOK INC.**

Menlo Park, California

Software Engineer (1 yr 11 mos)

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 the server caching/storage infrastructure.
- 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 significantly 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.
- Revamped the Facebook Messages Inbox to resemble the Messenger.com interface.

2014–2014 **FACEBOOK INC.**

Menlo Park, California

Software Engineering Intern (3 mos)

Worked on the Ads Infrastructure team. Primarily worked on the caching product which loads all Ad units from local databases into Memcache.

- My project involved implementing a major rewrite of the system to remove dependencies on Zookeeper and switch over to Tupperware. This allowed for major improvements in efficiency and concurrency across the product.
- The subsequent parallelization of Ad unit loading tasks led to an average of 25
- Switching the scheduling mechanism led to the reduction of On Run Delays by 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

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