Sourin Sutradhar

Contact : +91-7829459269
Email : sourin.sutradhar@gmail.com

Education:

Dual degree (B.Tech + M.Tech) in Electronics and Electrical Communication Engineering with specialization in Visual Information Processing and Embedded Systems from Indian Institute of Technology, Kharagpur.
Schooling: AISSE (Class 12) – 93.2 %   AISSE (Class 10) – 91.6 %

Work Experience

July 2018 – Current

Hotstar

Senior Software Development Engineer

- o **Video Playback Team**
- o Designed and developed Hotstar Playback distribution service capable of handling over **50 Million** concurrent users with peak load of **6 Million RPM**. This **Golang** based service **reliably orchestrated interaction with 8 downstream services** for the entitlement and secured distribution of playback URLs for videos.
- o Developed **active and reactive solutions** for playback security violations which **prevented over 85%** of the existing violations.
- o Designed Risk engine analysis platform with auditable data injected from multiple services during whole video playback lifetime at a rate of more than **6M RPM** that uses **Kafka** to manage data-injection for post playback analysis.
- o Onboarded over **200 M+** partner users from **JIO, Tatasky** into new secured Playback flow.
- o Architectured and developed a Rate limiting service middleware with configurable algorithms and dynamic policy implementation (needs no deployments) operating on **Redis** cluster with high performance at an additional cost of 1ms latency.

- o **User Management**
- o Designed and developed **phone based login** for Hotstar app that was used to onboard over **110+ Million users** during IPL and World cup 2019.
- o Prepared and revamped Hotstar-UMS platform for **IPL 2019 and Cricket World Cup 2019** that allowed it to handle over **25+ Million concurrent users,** currently a **world record for highest concurrent users in a platform**.
- o Designed and implemented the **Partner User Onboarding platform** that caters to over **300+ Millions** users across India. This includes integration with Tatasky, Jio, Airtel and BSNL for now.
- o Designed and developed **auto account merge framework** for users that has sanitized account data for **60+ Millions accounts.** This merges user accounts and subscriptions for a user coming through multiple channels.
- o Ownership of the UMS platform that catered to over **200+ Millions** users (**Tier-1** service of Hotstar) while constantly catering to feature requirements and LIVE issues.
- o Created **generic metrics framework** for UMS-Services (6 micro-services) that pushes billions of events to **prometheus** and uses **grafana** for graphing and monitoring.
- o Architectured **Communication service** that caters to SMS and email sending across the organization. Worked with **multiple vendors** to make it highly reliable and fault tolerant from external vendors and self. Has been able to deliver **250K+ SMS per minute** under high stress condition.

- o Technologies : **JAVA, Spring boot, Golang, Gin framework, DynamoDB, Kafka, MySQL, Redis, Aerospike, Promethus, Grafana, Nginx Varnish.**

Razorpay

July 2017 – July 2018

Backend Developer

- o Designed and developed the **Payment Links** product that avails merchant to build event/case based payment links. Engineered highly concurrent system to handle large volumes of payment (~30K per day) for restricted slots under time constraints set by merchants.
- o Developed **Soft Reservation** mechanism for long transaction processes across multiple nodes between gateway, issuing banks and Razorpay, used for CC/DC/NB payment modes.
- o Developed the **Dispute Management System** for handling chargebacks, arbitration and fraud cases raised by customers or banks against transactions handled by merchants.
- o Reengineered issuing of **Invoices** to customers that additionally maintains inventory of items for merchants. Also avails options of multiple **partial payments** for customers.
- o Engineered a generic **Batch Management System** that handles creation and distribution of 800K resources per day by merchants for invoices, payments and refunds.
- o Technologies : **PHP, Laravel, Java, Python, MySql, RabbitMQ, Redis, Docker.**

Playment

Jan 2016 – July 2017

Backend Developer

- o Designed and developed the Task Allocation Engine which plays a very crucial part in crowdsourcing logic of Playment handling around **60K+ RPM** with an average time around **50ms** while running in **2 vCPU EC2 instance with 8 GB RAM.**
- o Created an image servicing server called **Luigi** using **Django Rest Framework** and **MongoDB** that could serve over **100K+ RPM** with an average response time of around **8ms** while running in **2 vCPU EC2 instance with 4 GB RAM.** It's also integrated with **Amazon S3, CloudFront and Nginx.**

- Developed a high speed image uploader/downloader and processor application that could take care of more than **500K+ images** under an hour in an **Amazon m4-large instance**.
- Developed many APIs that makes life of project managers easier and resolved numerous production issues that made the experience of customers better.
- Technologies**: Python, Django, Java, Postgres, MongoDb, Redis, RabbitMQ.**

Lead Android Developer
- Created the Playment app from scratch and scaled it to over **200K+ users** and over **14K+ device types** while maintaining more than **99.5% crash-free users**.
- Designed and engineered an engine that acts as a **dynamic backend configurable app screen layout generator**, allowing Playment to have complete control over unlimited app layouts and user interaction **without requiring any update**.
- Setup the Test framework for the above application. Created two sets of tests using mentioned tools : Blackbox Automated Tests and Mocked Server Tests. Developed a **TDD approach** for development henceforth.
- Established one-click release process and pre-release beta testing process resulting in bug-free and stable releases.
- **Tech Integrations :** Retrofit, OkHttp3, Picasso, Fresco, Glide, PhotoView, Firebase RemoteConfig, RetroLambda, RxJava, Dagger2, LeakCanary, ButterKnife.
- **Analytics Integrations:** Firebase Analytics, Facebook Analytics, Fabric Analytics, Amplitude, BigQuery, Firebase Dynamic Links, UxCam, Aptelligent, Newrelic.
- **Test Integrations:** Espresso, UiAutomator, MockWebServer, Amazon Device Farm, Firebase Test Lab, PCloudy.

Feb 2015 – Dec 2015

Olacabs

Backend Developer
- Part of the core-team for **TaxiForSure and Olacabs inventory integration**. Reengineered the inventory architecture to bring more than **3 lakh cars, 2 lakh operators and around 4 lakh drivers** all under one platform.
- Developed the **Driver Incentive** feature of the Driver App of Ola that is being used for incentive payout for more than 4 lakh drivers around the country.
- Engineered the **Audit Management System** (AMS) for Inventory Management System division of Olacabs. The AMS designed is a self-evolving and generic tool that can be easily adopted across departments and is cross compatible with many the AMS of other divisions.
- **Technologies: Java, SQL, MongoDB, Jersey, Jetty, RabbitMq, Javascript.**

Oracle

June 2014 – Jan 2015

Backend Developer
- Sole developer of Oracle Mobile Cloud Service (MCS) Offline Analytics software development kit.
- As MCS team member, developed an **automated workbench** for testing the MCS client mobile app with independent units for the functionalities provided by MCS using both **Robotium** and **JUnit** Testing Framework.
- **Technologies: Java, Android SDK, JUnit, Robotium, HTML5, CSS3, JavaScript, JQuery.**

ThirdDime

Creator

thirddime.com

- Designed and developed the backend architecture for ThirdDime using **Django** and **Postgres and MongoDB**.
- Integrated Amazon s3 and CloudFlare for image delivery service.

Patent

Non Invasive Visual Field Sensor (NIVFS)   App no. : 534/KOL/2013

- Conceptualized and developed a system that feeds interpretable information to the brain for users with optical disabilities using trained alternate channels. This non-invasive approach is one of the most economic electronic gadgets used in this category with easy portability.
- Sponsored by **SRIC, IIT Kharagpur** under 100 days 100 patents drive 2012

Achievements

- **Playment application got featured in TechCrunch, Product Hunt and Hacker News**.
- Part of a team selected for **Y-Combinator** W-17 batch and **Google Launchpad**.
- A KVPY (Kishore Vaigyanik Protsahan Yojana) Scholar. Ranked among top 250 in India under SB+2/SX stream organized by Indian Institute of Science Education and Research (IISER) and administered by Indian Institute of Science (IISc) Bangalore, in 2009.
- Cleared IITJEE in 2009 (In top 0.4% in category).
- Cleared AIEEE in 2009 (9th rank in state category) (in top 0.5% in category).
- Gold Medalist and School Topper in National Science Olympiad in 2008 and 2009.