

# Jhohev Sk

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## SUMMARY

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As a member of the Amazon Prime Tech Team, I design and build tech solutions that improve the user experience for Prime customers globally. As a software engineer with over 7 years of real-world experience, I have led several large-scale projects at Amazon that not only exceeded business goals but also pushed the technical boundaries of distributed systems to handle the massive demand of millions of customers. For me, the real fun lies in diving deep into the low-levels of software, tinkering with threads, kernels, and CPU operations to unblock their true potential.

## EXPERIENCE

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### Software Development Engineer II

Nov 2021 – Present

*Amazon (Prime Tech)*

*Seattle, USA*

- Leading a 2-person team to improve customer engagement of a rewards program for Prime members with personalized recommendations.
- Led a 3-person team to design, develop, and launch a global multi-step reward program for Prime Day 2024, handling peak traffic of more than 10,000 TPS and driving over 240k orders and higher customer retention
- Improved response time of customer eligibility service from 5s (p99) to 50ms by implementing remote distributed cache with AWS ElastiCache (Redis) Cluster, resulting in 99% reduction in customer-facing request timeouts.

### Software Development Engineer II

Dec 2018– Nov 2021

*Amazon (Retail Pricing)*

*Bangalore, India*

- Received *SPS Day 1 Award* for my significant work on reducing time and cost of operations.
- Automated manual operations using Selenium Webdriver that helped operations team reduced a week (5 days) of manual effort to few (2-3) hours.
- Built automated experimentation tool that tested, evaluated and launched new configurations in minutes which previously took the whole day by operations team.
- Mentored and guided SDE-I to advance to the next level in their career.

### Software Development Engineer I

Sep 2017 – Dec 2018

*Amazon (Retail Pricing)*

*Bangalore, India*

- Developed a highly-responsive Electron-based desktop tool (replacing existing slow Firefox add-on) with feature improvements like pre-fetching, multi-instance, zero-click auto-updates, etc., that drastically increased operation team's productivity from spending 5 minutes on each work item to just few seconds.
- Enhanced performance and reduced latency of a work allocation tool that processed GBs of data daily, enabling efficient task assignment for an operations team of over 200 members.
- Mentored 2 SDE interns on their projects, leading to full-time job offers.

### Software Development Engineer - Intern

Feb 2017 – Jul 2017

*Amazon (Retail Pricing)*

*Bangalore, India*

- Re-designed and developed data warehouse solution to support report generation for write-heavy traffic, processing over 1TB/day of large-scale data. Reduced query time from 1 day to few minutes that helped internal operations team complete their analysis in days that previously took weeks/months. Optimized queries by partitioning the data at the day level using Amazon EMR (MapReduce with Apache Hive and Hadoop) loading data from S3 published by worker instances processing data streams from SQS.

## TECHNICAL SKILLS

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As a software engineer with over 7 years of real-world experience, I have designed and delivered several large-scale **distributed systems** of **microservices** that handle high traffic from millions of customers. Through these projects, I have gained expertise in every stage of **Software Development Lifecycle (SDLC)** and consistently focused on **operational excellence**. I have learned to improve code performance, readability, modularity, and extensibility by applying best practices of **software design patterns**. I have learned to make services more resilient and fault tolerant through design choices like **availability zone replication**, **distributed rate-limiting / throttling**, and **circuit-breaker**. I have built diverse monitor solutions for these systems through auto-generated **metrics**, **alarms** and **dashboards**. I have adopted efficient DevOps approaches for safely auto-deploying changes to production by following the standard practices of **Continuous Integration / Continuous Deployment (CI/CD) pipeline**, including **Integration Testing**, **Stress Testing**, **Chaos Testing**, **OneBox** stages, **Rollback**, and more.

Beyond work, I enjoy exploring the latest developments in **Machine Learning (ML)**, **Web Dev**, and **System Design**, which inspires me to develop new ideas. Some of my skills and experiences are mentioned below.

**Programming Languages:** Java 11, Java 8, Python 3, Javascript, C#, C++, C, Lua

**Java Dev Tools:** Asynchronous / Reactive Programming, CompletableFuture, Netty, Apache Tomcat, Guice, Spring, JUnit, Mockito, Smithy, IntelliJ, Eclipse, NetBeans

**Javascript Dev Tools:** Electron, Node.js, Typescript, React, Express.js, AngularJS

**Python Dev Tools:** TensorFlow, PyTorch, cuda, Scikit-learn, SciPy, OpenCV, Open3D, Numpy, Pandas, Matplotlib, Seaborn, Streamlit, Conda, pip, Google Colab, Jupyter Notebook

**Web Dev Tools:** PHP, Selenium Webdriver, CSS Module, SCSS, Bootstrap

**Android Dev Tools:** Android Studio, Retrofit, OkHttp, Butterknife, Dagger

**Build Systems:** Apache Ant, Maven, Gradle

**AWS Tools:** AWS CDK (infrastructure-as-code), AWS CloudFormation, S3, SNS, SQS, AWS CloudWatch, Amazon Kinesis, Amazon Firehose, AWS Elasticsearch with Kibana (now OpenSearch), Amazon VPC, Amazon Route53, AWS Lambda

**Database and Tools:** DynamoDB, Amazon EMR, Amazon Redshift, AWS Glue, AWS Athena, RDS Aurora, MongoDB, MySQL, Apache Spark, Apache Hive, Apache Hadoop, AWS Data Pipeline

**Caching:** Amazon ElastiCache, Redis, memcached

**Markup Languages:** Markdown, HTML, XML,  $\LaTeX$

**OS:** MacOS, Linux distributions, Microsoft Windows

**Other IDEs:** Visual Studio Code (VSCode)

**Version Control Systems:** Git

**Container Tools:** Docker, Amazon ECS (similar to Kubernetes)

**API Architectures:** REST, RPC, WebSocket, Server-Sent Events (SSE)

**Other Tech Stacks:** MERN, MEAN, XAMPP

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## PROJECTS

### PlayOnTop

- Developed a **Electron-based** desktop video player app with AngularJS to play Web/Local videos as a small floating player on top of all windows.
- Developed a **Chrome extension** to open YouTube videos in Picture-in-Picture (PiP) mode in the desktop app and including all default YouTube features.

### Click List

- Developed **Chrome extension** *click-list* for chrome users to share links with each other.
- Hosted backend server with **NodeJS** (Click-List-Server) and **WebSockets** to notify changes to users.

### DISARM (ITRA Govt Project NIT DGP)

- Developed Web application to extract coordinate information for offline representation (WKT) of an area using **Google Maps API**
- Simulated Delay Tolerant Network (DTN) by modifying open-source ONE Simulator
- Developed **Android** app to collect survey for research

### Technoshine X.5

- Developed website to promote fest organised by university club CAD (Centre for Application Development)
- Used **XAMPP** as stack and had basic authentication for registration, login, and an online game Nethunt.
- Developed **Android app** for the same.

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## EDUCATION

**Master of Computer Applications (MCA)**  
*National Institute of Technology (NIT) Durgapur*

2014 – 2017  
*Durgapur, India*

**Bachelor of Science (B.Sc.) (Honours), Computer Science**  
*University of Calcutta*

2011 – 2013  
*Kolkata, India*

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## AWARDS, ACHIEVEMENTS & ACTIVITIES

- Organized 2-day Amazon Prime Hackathon in North Carolina A&T University attended by 48 students in 2022.
- Won 1<sup>st</sup> Prize in Hackathon organized by Amazon Retail Pricing Team in 2020.
- Received *Retail Pricing Tech Special Annual Award for Customer Obsession* in 2020.
- Received *Extra Mile Award* from Team in June 2020 and Dec 2020.
- Received *SPS Day 1 Award* for my significant work on reducing time and cost of operations in 2019.