Kumar Abhishek

Senior Computer Scientist - II

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SUMMARY

I am a seasoned software architect with over 19 years of experience in product development and distributed systems. Currently, I am working at Adobe as a Senior Computer Scientist II, specializing in architecting and building scalable APIs and services for Firefly and GenAI products. I am proficient in full-stack development (Java, Golang, Python, Node.js, React, Javascript), cloud-native application on AWS, and leading cross-functional teams.

EXPERIENCE

Senior Computer Scientist II

Adobe | Bengaluru | 07/2022 - Present

Pioneered technology solutions and architectural frameworks for Adobe's Firefly APIs, enhancing integration capabilities across flagship applications such as Photoshop, Illustrator, and Lightroom while improving service performance by 20-30% across platforms.

- Building scalable API and services for first-party Adobe flagship applications like Ps, Ai, Lr, etc and 3rd party enterprises for Firefly and GenAI capabilities.
- Leading team with architectural design for delivering milestones under organisational constraints and meeting OKR set by the executive leadership team.
- Built commercialisation and metering system for generative credits management of various spectrums of Firefly API consumers.
- Built text-to-image features including prompt processing, Imaging model selection, Style presets, etc in Firefly webapp utilising UI stack based on React, Javascript and Node.js.
- Guide and adopt technologies fit for the purpose including but not limited to Java, python, Golang, Node.js, etc in a distributed systems with horizontal scalability, avoiding single-point of failure, security and all aspects of production grade considerations.
- Prototyping and building solutions, features, POC, etc for experimentation and innovation to improve and enhance current products and capabilities, collaborating with cross-geo teams.

Principal Engineer

Bazaarvoice | Bengaluru | 03/2021 - 07/2022

Leading technical initiatives and compliance in ratings and reviews of product offerings.

- Representing India's technical leadership team for various product offerings and portfolios in ratings and reviews.
- Driving non-functional requirements such as performance, security, portability and scalability.
- Full-stack architecture, development, and maintenance of solutions using AWS, Google Apigee API Gateway, Cloudflare, etc.
- A key leader in driving technological innovation and solving business problems for customer delight and retention.
- Regulation & Compliance leadership at the organisation level for ePrivacy - CNIL & Web Accessibility - W3C WCAG.
- Part of the technical leadership group for cross-functional initiatives.

Architect

Cisco Systems | Bengaluru | 03/2013 - 03/2021

Architecting and developing cloud-based solutions for communication technologies.

- Design and development of Cloud-native application for Cisco Unified Communication Technology Group (UCTG).
- Identifying non-functional requirements such as performance, security, portability and scalability of the application.
- Full-stack architecture, development, and maintenance of solutions on AWS.
- Represent technical leadership team for coordinating with product management and other stake holder for cloud based UCTG telemetry solutions.
- Scrum, Kanban, Agile methodologies.

Technical Lead

Eros International | Bengaluru | 09/2011 - 03/2013

Technical lead responsible for backend and frontend web application development.

- Overall backend development of web applications (ErosNow & ErosNow Analytics) including Nodejs, JavaScript, VARNISH, HAProxy, Stunnel, NginX, EC2, etc on AWS.
- HTTPS - SSL Certificate, REST APIs for catalogue (Movies / Music videos / Short Content, etc.)
- User/Session Management, Social Network Login.
- Movie Subtitles, Online Subscription, Advertisement (Preroll, Companion, etc.)
- Optimization & performance tuning for iPad & Internet Explorer browsers, Google Analytics.

Lead Engineer

Samsung | Bengaluru | 06/2009 - 09/2011

Leading a team of application framework development for the SAMSUNG bada platform.

- Reviewing code changes, refactoring, and optimizing codebase as per requirement.
- Worked on the design & development of modules in the WebKit-based Samsung mobile browser.
- Solving critical issues related to rendering, mentoring & training newcomers.
- Received "Super Saver Award" for a contribution towards total cost reduction of mobiles by developing a WebKit-based web browser.

Senior Software Engineer

Yahoo! | Bengaluru | 05/2008 - 06/2009

Design & development of participation platform and user-generated content.

- Design & development of Yahoo alerts for scheduled notifications via Yahoo Messenger and Yahoo Mail.
- Contributing to the low-level design of component interfaces (C++ API) and deployment to the server.
- Integrating poller component with Mysql database farm for various Alert categories like Yahoo Stock, Yahoo Weather, Yahoo News, etc.
- Adding C++ unit tests to improve component quality by increasing code coverage and reducing cyclomatic complexity.
- Contributing to code review and unit tests of different components of the participation platform.

Software Engineer

Hewlett Packard | Bengaluru | 06/2005 - 05/2008

Development and maintenance of libIO library as part of System Networking and IO Lab (SNIL).

- Unit tests for APIs sanity checks supported by libIO on HPUX 11i.
- Porting various thread-unsafe components of libIO using thread local storage(TLS).
- Contributing to the development of the Intelligent Platform Management Interface(IPMI) Tool in C++.

EDUCATION

M.S. in Software Systems

Birla Institute of Technology And Science | Pilani | 06/2007 - 06/2009

B.E. in Information Science and Engineering

R V College of Engineering | Bengaluru | 06/2001 - 06/2005

SKILLS

⚙ AI/ML:
Pytorch, Diffusion Model, Granularity & Nuances Control using Omegance

☁ Cloud Services:
AWS, Docker, EKS(Kubernetes), Lambda, API Gateway, Route53, CDN(Cloudfront)

⬙ Backend Development:
Java, Golang, Node.js, Python, JavaScript, PHP, C/C++

⊟ Frontend Development:
React, HTML5, CSS3, JavaScript(ES6+), Progressive Web App(PWA), IndexedDB

⚙ APIs & Microservices:
REST, GraphQL, gRPC, Protobuf, WebSockets

⬚ Databases:
AWS RDS(MySQL, PostgreSQL), MongoDB, DynamoDB, Redis, Elastic Search

⚒ Architecture Patterns:
Strangler, Backend for Frontend (BFF), API Gateway, Command Query Responsibility Segregation(CQRS), Priority Queue, Saga(Orchestration), Choreography

⚒ Tools & Frameworks:
Kafka, SNS, SQS, HAProxy, Nginx, Terraform, AWS CDK, Jenkins

⛊ Security & Compliance:
ePrivacy (CNIL), Web Accessibility (W3C WCAG)

⚑ Methodologies:
Agile, Scrum, Kanban

⑂ DevOps:
Git, ArgoCD, Jenkins, HELM Chart, CI/CD(Git Actions)

CERTIFICATIONS

in Introduction to Large Language Models
Issued Feb 2025

in Generative AI: Introduction to Large Language Models
Issued Feb 2025

in Cloud Architecture: Advanced Concepts
Issued Feb 2022

in Go Essential Training
Issued Feb 2022

in Learning GraphQL
Issued Feb 2022

in Microservices: Asynchronous Messaging
Issued Feb 2022

KEY ACHIEVEMENTS

◈ Reduced data transfer bandwidth by more than 50%.

For a data pipeline project, the data transmitted from the client over REST API was replaced by custom rpc over websocket using protobuf encoded binary data in place of text-based JSON, there by reducing data transfer bandwidth by more than 50%.

◈ Improved latency of microservices by 20 times and resource reduction of 10 times.

Older JVM-based microservice was re-engineered in Go, thereby drastically cutting down on memory and CPU footprint and yet improving the latency manifold. It gave a big headroom for building more features to cater to business demand without adding any extra investment in computing.

LANGUAGES

English

Proficient

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Hindi

Proficient

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INTERESTS

🗪 Technology Enthusiast

Checking out and learning new stuff in technology.

⚑ Innovative Problem Solver

Hacking to try out something new.