KARAN PRATAP SINGH

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SKILLS

Programming	Golang, Python, TypeScript, JavaScript, Java, PostgreSQL, Redis, GraphQL
Frameworks	Express.js, Django, Flask, FastAPI, Spring Boot, React.js, Next.js
DevOps	Docker, Kubernetes, Terraform, Pulumi, Jenkins
Cloud Providers	Amazon Web Services (AWS), Google Cloud Platform (GCP)

EXPERIENCE

Software Engineer   02/05/2024 - Present
Apple Inc.   *Cupertino, CA*

Senior Software Engineer   05/03/2023 - 01/26/2024
The Guardian Life Insurance Company of America   *Holmdel, NJ*

- Developed features for Guardian Anytime web app leveraging React.js and Node.js **serving over 4M users**.
- Migrated legacy Java SOAP APIs to RESTful APIs using **Spring Boot** ensuring robust code quality.
- Improved reliability and maintainability of React.js application by **increasing test coverage by 12%**.

Senior Engineer   12/07/2020 - 05/13/2023
Curebase   *San Francisco, CA*

- Designed scalable REST and GraphQL APIs using **TypeScript, Node.js, Redis, and PostgreSQL**.
- Led initiative for codebase migration to TypeScript, **reducing cost and API latency by 50%**.
- Built **fault-tolerant, horizontally scalable multi-tenancy** for core SaaS product leveraging **AWS (ALB, ECS, S3, RDS, SQS, DynamoDB)** with a focus on **security, GDPR, and HIPAA compliance**.
- Utilized **Golang, Python, and Terraform** to develop business-critical internal tools and simplify SDLC.

Software Developer   05/26/2020 - 01/31/2021
Quotient Inc.   *Maryland, USA (Remote)*

- Created a digital asset management platform using **React, TypeScript, Node.js, and GraphQL**.
- Implemented **terabyte-scale data ingestion and streaming** with Node.js for **over 150 million artifacts**.
- Designed end-to-end GraphQL data layer and client-side enterprise search solution with React.
- Optimized production CI/CD pipeline using Docker multi-stage builds, **reducing container size by 80%**.

Software Developer   08/17/2019 - 06/07/2020
Stewards   *London, UK (Remote)*

- Implemented event-driven food delivery mobile application with React Native.
- Consolidated internal sales and custom B2B integrations with React and Node.js.
- Edge-optimized GraphQL API utilizing Google Cloud CDN, **increasing customer retention by 60%**.

PUBLICATIONS

- Manas Singh, **Karan Pratap Singh** et al. **"System and method for defense in depth of one or more software delivery pipelines"**. US Patent Application No. 18373596. Filed September 27, 2023.
- Manas Singh, **Karan Pratap Singh** et al. **"System and method for continuous automated threat modeling"**. US Patent Application No. 18230253. Filed August 4, 2023.
- **"Learn Go"**, Published Jan 2023, ISBN 979-8-9883975-4-0.
- **"System Design"**, Published Aug 2022, ISBN 979-8-9883975-8-8.

ACHIEVEMENTS

- Co-authored U.S. patents, **contributing novel solutions in software security and delivery pipelines**.
- Author and maintainer of "System Design", ranked amongst **GitHub's top 500 global repositories** with over **38K stars** and **40K monthly views**.
- Published **50+ technical articles** on software engineering topics such as distributed systems, microservices, software architecture, and DevOps on Medium and Dev.to, reaching over **2 million views**.
- Created and managed a **YouTube channel on software engineering**, producing educational tutorials that have **reached 70K+ developers globally**.
- Published technical books on "System Design" and "Learn Go", **contributing practical guidance and insights to the software engineering community**.
- Contributed to open-source projects, acknowledged in **React Native v0.60 by Meta**.

PROJECTS

- **ScaleETL** - High-performance CLI for partitioning, transforming, loading, and searching CSV datasets up to **1 billion rows**.
- **Preview Environments** - On-demand ephemeral, secure, and isolated AWS infrastructure to accelerate early Product and QA collaboration and improve cross-team visibility.
- **HyperTrade** - Distributed system for automated cryptocurrency trading across multiple exchanges.
- **Full Stack Starter Kit** - Scalable, GraphQL first template used by **1200+ developers**.
- **Proximity** - Privacy-focused, open-source social media platform with over **10,000 users**.

EDUCATION

Bachelors of Technology, Computer Science and Engineering   2017 - 2021
SRM Institute of Science and Technology   *Delhi NCR, India*