

# Ruchir Agarwal

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## EDUCATION

### San Jose State University - San Jose, CA, USA

January 2021-August 2022 (Exp.)

Master of Science in Computer Software Engineering

GPA 3.83

Enterprise Software Platform | Enterprise Distributed Systems | Software Systems Engineering

### Dr. A.P.J. Abdul Kalam Technical University - India

August 2012-May 2016

Bachelor of Technology in Computer Science and Engineering

## TECHNICAL SKILLS

**Language:** Java, JavaScript, C#, VB.NET

**Database:** MongoDB, MySQL, Redis

**Front-end:** React, Redux, HTML5, CSS3, Bootstrap

**Back-end:** Spring Boot MVC, REST API, NodeJS,

ExpressJS, Apache Kafka

**Tools:** VSCode, IntelliJ, Postman, JIRA, GitHub, TFS, Confluence

**Testing:** Mocha, JMeter

**Cloud/DevOps:** AWS (EC2, ECR, S3, RDS), Docker, Kubernetes

## WORK EXPERIENCE

### GrapeCity India Pvt. Ltd - Noida, India

April 2016-December 2020

#### Software Engineer

**Technologies:** .NET, C#, WPF, WinForms, .NET Core, VB.NET, UWP

- Estimating and planning deliveries, gathering business needs, and translating them into technical solutions in .NET
- Spearheaded the migration of an application from traditional HTML to ReactJS to improve UX across different devices
- Modularized and implemented the Integration module to integrate various services in the internal framework
- Achieved 75% code coverage by conducting unit tests of the modules that also increased software robustness by 11%
- Refactored codebase for multiple upload modules, resulting in a 24% improvement in response time
- Held bi-weekly Agile-SCRUM sprints and participated in sprint planning, retrospect, and sprint review
- Collaborated with clients and the product manager to execute UAT shooting up stakeholder acceptance by 38%

## PROJECTS

### Splitwise Prototype

February 2021-March 2021

**Technologies:** MongoDB, MySQL, Express.js, Node.js, React.js, Redux, Kafka, AWS (ECR, S3)

- Developed a distributed web application that enables users to track bills and split shared expenses
- Built RESTful APIs using Node.js and Express.js, and integrated Kafka for increasing system availability and scalability
- Enforced request authentication using Json Web Tokens (JWT) and incorporated Redux for state management
- Boosted application response time by 21% utilizing SQL connection pooling
- Performed load testing using JMeter for 1000 users and deployed the dockerized web application to AWS ECR

### Reddit Simulation

April 2021-May 2021

**Technologies:** MongoDB, Express.js, React.js, Redux, Node.js, Kafka, AWS (EC2, S3), Redis, SocketIO, Kubernetes

- Coordinated with a team of five to simulate Reddit and implemented Redis caching, which improved performance by 35%
- Deployed sharded MongoDB cluster and incorporated role-based access for community management
- Implemented real-time messaging feature using Socket IO and used AWS S3 as an image server for high throughput
- Managed concurrent requests from 5000 users by utilizing Kubernetes for load balancing and hosted the app on AWS EC2

### Vaccination Management System

October 2021-December 2021

**Technologies:** Java, Spring Boot MVC, Google API, AOP, DI, ReactJS, MySql, AWS EC2

- Built a vaccine administration system to schedule vaccines, manage clinic availability, update, and check-in appointments
- Integrated OAuth with Google API and implemented Spring Security for role-based authorization, authentication, logging
- Leveraged MVC, AOP, ORM, and transactions to implement APIs to schedule vaccine appointments, manage vaccination history, and mimic time elapsing to check vaccines due