Deepen Patel

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EDUCATION

San Jose State University	**Master of Science, Software Engineering**	*January 2020 - December 2021*

Courses: Large scale distributed systems, Software Systems Engineering, Enterprise Software Overview, Data mining, Software Security

Gujarat Technological University	**Bachelor of Engineering, Computer Engineering**	*August 2015 - May 2019*

Courses: Data structures and algorithms, Database management Systems, Operating Systems, Web Applications development, Computer Networks, Machine Learning, Big data Analytics

SKILLS

Programming Languages:	Python, Java, JavaScript, C/C++, Go
Development and Databases:	Node.js, Express.js, Spring boot, GraphQL, Apache Kafka, REST APIs, React.js, Redux, D3.js, HTML, CSS, Bootstrap, JQuery, SQL (MySQL, Microsoft SQL server), NoSQL (MongoDB, Redis)
Cloud and DevOps:	AWS (Amazon Web Services), Docker, Terraform, Source control (Git), Automation unit and integration testing (PyUnit, JUnit, TestNG, Mocha), Application load testing (JMeter), Selenium, Jenkins
Data Science/Analytics:	NumPy, sklearn, pandas, Matplotlib, Hadoop
Certifications:	Microsoft Technology Associate – Software and Database Fundamentals
	Jenkins Essential Training - LinkedIn Learning
	Professional iOS development – Codepath.org (In progress)
Other:	Windows, Unix/Linux Platform, Object-oriented programming, Software Design patterns, Agile/scrum development methodology, Problem solving, Software development lifecycle, Test driven development

WORK EXPERIENCE

Software Developer Intern, Pratham Notebook *June 2019 - November 2019, Ahmedabad, India*

- **Improved sales by 15%** by designing database **(MySQL)** to keep track of sales that allowed for more efficient analysis.
- Implemented backend REST APIs in **Node.js** to gain high performance and handle concurrent connections.
- Developed intuitive and responsive UI interfaces with reusable components and scalable framework **(React.js)**.
- **Developed management systems and brand website in conjunction with product and design team for a Consumer goods startup.**

PROJECTS

Amazon Prototype (MERN Stack, Redux, Apache Kafka, MySQL, Redis, Passport.js, JWT) *April 2020 – May 2020*

- **Led the development of a secure eCommerce web app similar to amazon.com with 10000 products in a team of five members.**
- Designed the software system architecture consisting of a client layer, server layer, message queuing system, and database layer.
- Developed backend REST APIs in Node.js and Express.js which takes client requests and forwards them to messaging queue.
- **Improved system efficiency by 15-20%** by setting up Apache Kafka as a messaging queue to decouple APIs and business logic.
- Implemented token-based authentication and authorization, tested performance using JMeter and wrote test cases.
- Deployed on AWS EC2 instance with auto-scaling, security groups and load balancer for high availability.

Direct-Exchange – A currency remittance system (Java, Spring, React.js, MySQL, Aspect oriented programming, Docker, Jenkins) *Nov. 2020*

- **Developed a P2P currency remittance system, to remove the need of having to go through currency conversion and paying more.**
- Worked on system design and object design to capture the structure and behavior of the system into small modules.
- Implemented REST services with **Spring boot, AOP, JPA, Amazon RDS** and designed user interfaces using **React.js and ant design**.
- Created an automated CI/CD pipeline to run tests and release the updates to AWS EC2 cloud as dockerized containers.

Email categorization and Spam/Ham filtering (NumPy, pandas, Matplotlib/Seaborn, sklearn, Machine learning algorithms, nltk) *Nov. 2020*

- **Performed Email categorization and Spam/Ham filtering on Enron email dataset (0.5 Million emails) using Machine learning techniques.**
- Analyzed accuracy of 5 different algorithms on spam/ham filtering using Confusion matrix and ROC curve.
- Evaluated the performance of Logistic regression model on email categorization by cleaning, preprocessing and feature extraction using Bag of words model and TF-IDF vectorizer, training, and testing.

Traffic Governance System (Python, YOLOv3, OpenCV, Flask, HTML, CSS, Docker) *March 2020*

- **Built an AI system that deals with the flow of traffic at crossroads in urban areas to better direct vehicles in appropriate time.**
- The system takes a video of lanes as an input, detects the vehicles and calculates the number of vehicles in each lane using YOLOv3.
- Then, it sets the timer for that lane and balances the timer for other lanes accordingly.

Credit Card Detection (Java, Design Patterns, JUnit, Object-oriented programming) *April 2020*

- **Built an application for verification & classification of Credit cards taking input from different file formats (.CSV, .JSON, .XML) in java.**
- Followed Gang of Four - Design Patterns and principles (Strategy, Chain of responsibility) to define the architecture of the application.