# Raj Patel

Dallas, Texas (+1) 213-477-9195

## Experience

**Senior Software Engineer** *Nov 2024 – Present*

*Stealth Mode Startup, Dallas, TX (Remote)*

- Building scalable backend from scratch for an early stage e-commerce startup using Python, Django, PostgreSQL, MongoDB, Kafka, AWS, and Terraform.

**Software Intern** *Mar 2024 – Nov 2024*

*ICPC Foundation, Los Angeles, CA (Remote)*

- Providing mentorship and training in competitive programming, data structures, and algorithms to students. Additionally, responsible for full-stack development, CI/CD, and maintenance of the platform for online coding competitions.

**Software Development Engineer 2** *Jun 2021 – Dec 2021*

*Adobe, India*

- Developed a feature to enhance Acrobat PDF reader experience and emerged among winners in Hackathon held globally among the Adobe Acrobat division.
- Implemented efficient data handling techniques and fixed major security issues for large-scale document processing.
- Collaborated on a Smart collaboration feature of Acrobat PDF that enables users to share, communicate, and collaborate using documents both online and offline and resolved more than 50 performance issues in a span of 2 months.
- Improved the performance of Core Acrobat Libraries through better architecture changes in code and minimized the application's latency by 18%.

**Lead Software Engineer** *Jun 2017 – May 2021*

*Samsung Research, India*

- Implemented database performance monitoring and optimization strategies, resulting in 30% faster query response times.
- Spearheaded the architecture and development of a scalable big data analytics dashboard using Java, Angular, BigQuery, PostgreSQL, and Kafka.
- Constructed a data lake leveraging ETL processes to consolidate and process data from various sources, decreasing customer bug reports by 15%.
- Designed scalable database architecture employing sharding strategies and optimizing complex SQL queries.
- Developed efficient ETL pipelines handling both batch and real-time data processing across multiple database systems.
- Led the development of on-device AI solutions for recommendation integrated with big data systems.
- Enhanced frontend/backend data transfer for Bixby (Samsung's intelligent assistant) with Java, Javascript, and REST, reducing man hours by 36%.

**Software Engineering Intern** *Jan 2017 – May 2017*

*Samsung, India*

- Developed a GUI-based Real-Time Memory Profiler Tool for Android Devices to analyze device's RAM and Storage Usage by different features and Apps using Python.

## Skills and Technologies

**Programming Languages:** C, C++, Java, Python, C#, Objective C, R, Unix, Object-oriented programming

**Web Technologies:** HTML, CSS, Javascript, AngularJS, PHP, ReactJS, NodeJS, TCP/IP, Distributed Systems, JQuery, Redux, Microservices

**Databases & Systems:** Linux, Windows, MacOS, SQL (MySQL, PostgreSQL, Oracle), NoSQL (MongoDB, Cassandra), SQLite, Data Warehousing (BigQuery, Snowflake, Databricks), Database Optimization, Query Tuning, Indexing Strategies, Database Sharding, Replication

**Cloud & DevOps:** Microsoft Azure, AWS, Google Cloud, Docker, Containerization, CI/CD, Git, REST API, Shell Scripting, System Design, Unit tests, SSO, OAuth, Spring Boot, Perforce, Maven, Jenkins, SDLC, Hibernate

**AI/ML & Big Data:** Deep Learning, NLP, Spark, Hadoop, Kafka, ETL, Pandas, Numpy, Scikit-learn, NLTK, Keras, TensorFlow, PyTorch, MATLAB

## Education

**University of Southern California (USC), Los Angeles, CA** *Jan 2022 – Dec 2023*
*Masters (M.S.) in Computer Science* GPA: 3.65
**Coursework:** Databases, NLP and LLMs, Machine learning, Information retrieval, Data Science, Mobile and Game development.

**Nirma University, India** *Aug 2013 – May 2017*
*Bachelor of Technology in Computer Science and Engineering (among top 5% of batch)*

## Research

**Summarizing Text Documents with Large Language Models (LLMs) and Generative AI, USC**

- Researched and evaluated different large language models (LLMs) and generative AI summarizers, including BART, on a massive dataset of medical reports. The goal was to compare the performance of these models in generating concise, human-like summaries to enable better understanding and interpretation of complex medical documentation.

**Publications**

- J. Shah, R. Patel, "Classification Techniques for Disease Detection Using Big Data," 2019 IEEE Conference.

**Peer Reviewing**

- Served as a peer reviewer for EMNLP 2021, 2022, and 2023, reviewing 10+ papers.