

Karan B. Patel

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Education

University of Texas at Dallas
M.S. Computer Science CGPA: 3.625/4.00
Sardar Vallabhbhai National Institute of Technology
B.Tech Computer Engineering

Richardson, TX
Expected Dec 2019
Surat, GJ, India
2009-2013

Technical Skills

Languages/technologies: Java, SQL, Python, Airflow, Docker, Hadoop MapReduce, Spark, SparkSQL, Hive, Pig Latin; Git;
Operating Systems: Windows, Linux;
Databases: Sybase SQL Anywhere, MariaDB, Apache Solr, MySQL, Oracle, MongoDB;
Web Development: Spring Boot, GraphQL, Spring Data REST, AngularJS, Node.js, Hibernate, JDBC, JavaScript, HTML, CSS;
Libraries: TensorFlow, Keras, PyTorch, sci-kit learn, Pyspark, OpenCV, Pandas, Numpy, Matplotlib;
Coursework: Machine Learning, Artificial Intelligence, Natural Language Processing, Computer Vision, Big Data Management and Analytics, Design and Analysis of Algorithms, Database Design, Advanced Operating System, Data and Application Security, Network Security;

Professional Experience

- Amgen Inc.** **Tampa, FL**
Grad Intern *Jun 2019 - Aug 2019*
Enterprise Search Application
- Used Apache Solr, Java SpringBoot, Spring Data SolrJ and GraphQL to develop backend APIs for the front-end application.
- Custom Entity Extraction*
- Used Amazon textract service to get the key-value pairs and required text out of documents. To convert unstructured data into structured data for getting more insights from it using a machine learning approach.
 - Created an Airflow DAG which triggers flask APIs to submit the job, check the status and get the results out of the textract service.
 - Dockerized both the APIs in Amazon EC2 instance.
- Copart Inc.** **Dallas, TX**
Software Developer Intern *Oct 2018 - Dec 2019*
- Migrated the production user database system APIs from using the old IBM DB2 database system and IBM RPG language to a new service using Java Spring Data Rest and MariaDB, improving the reliability and speed of the system by 15%.
 - Developed efficient, secure applications, peer-review code, and document solutions within an agile-blended software environment.
 - Worked on Web-based applications utilizing Java, Spring, AngularJS and JavaScript.
- Meditab Software Inc.** **Ahmedabad, India**
Senior Programmer Analyst *Sept 2015 - July 2017*
- Trained, mentored and led the team of 10 trainees. Gave training in Core Java, SQL and other technologies.
 - Directed ways to automate testing of recurring issues, which helped in identifying the issues quickly before releasing every build, thereby reducing the rework and client cases.
 - **Leadership:** Led a team of 6 programmers. Responsible for designing new features and creating the architecture that is robust, reusable and easy to maintain. Developed the report builder and parsing logic in the backend.
 - Successfully managed projects from inception to on-time completion; balancing trade-offs and coordinating teamwork. Worked on several projects namely Dashboard Analysis, Electronic/Paper Claims, Reports, Scheduler, TeleHealth. The technology used Java, SpringBoot, and MySQL.
- Meditab Software Inc.** **Ahmedabad, India**
Programmer Analyst *Jun 2013 - Sept 2015*
- Took part in designing, building, maintaining, reviewing and supporting quality code and services.
 - Involved in the Software Development Life Cycle (SDLC) including Analysis, Design, Implementation, Testing and Maintenance using agile methodology.
 - **Optimization:** Restructured all of the reports queries, helped identify which module is causing overall slowness to clients with more than 100 users.
 - Moved costly SQL queries to the materialized query tables, which improved the performance of the reports to more than 99.95% in several cases.
 - Redesigning the database structure of the system which results in performance improvement of the overall system by more than 25%.
 - **Designing:** Redesigning the system based on the key information used to identify the disease(ICD codes) for the new set of ICD 10 codes. Was the key stakeholder in this project and developed this using PowerBuilder as front-end and Sybase SQL Anywhere as a backend database.

Academic Projects

- Machine Learning Projects** *Jan-April 2019*
- Implemented ANN with sigmoid, ReLu, and tanh as activation functions from scratch in python and used it for classification purpose.
 - Multi-class text classification on news articles and twitter toxic comment classification using spark, Pyspark, sci-kit learn, nltk, with various models like Deep Neural Network, and Ensemble models like RandomForest, Logistic Regression, NB-SVM, GradientBoosting.
 - House Price Prediction using Linear Regression, Decision Tree, RandomForest, XGBoost, and various other methods.
- Computer Vision Projects** *Jan-April 2019*
- Implemented Image filtering algorithms like histogram equalization on the luminance values at the pixel level with python.
 - Implemented Object detection in images using HaarCascade classifiers after applying filtering methods like histogram equalization, luminance stretching, smoothing using OpenCV library.
 - Digit recognition from 12% of total MNIST dataset which is further reduced to ¼ of the original size using Keras and applied CNN to achieve 92.5% accuracy.

Honours and Awards

- Kudos Award:** To complete the complex projects ahead of time with high accuracy. (ICD 10) *Oct 2015*