Dhruv Patel

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EDUCATION

- **University of Southern California – Viterbi School of Engineering** — Los Angeles, CA
  Master of Science in Computer Science; ***Courses****– Algorithms, AI, Information Retrieval, Web Tech.* — *May 2020*
- **Dharmsinh Desai Institute of Technology** — Nadiad, India
  Bachelor of Technology in Computer Engineering; ***GPA – 9.07/10.0*** — *May 2018*

TECHNICAL SKILLS

- **Languages**: Java (Intermediate), Python (Advanced), JavaScript (Advanced), C++, Scala, HTML, CSS, PHP
- **Web Frameworks and Databases**: Django, Backbone.js, Laravel, Node.js, Spring MVC, JHipster, ASP.NET, jQuery, AJAX, Polymer, Angular 5, RxJS, D3.js, MySQL, Postgre SQL, mongoDB, Redis, Restful Web Services
- **Cloud**: AWS (Spectrum, Lambda, RDS, S3, Redshift), GCP (Compute Engine, BigQuery), Docker, Kubernetes
- **Software and Tools**: Spark, Kafka, Storm, Airflow, Git, Kaldi ASR, CoreNLP

PROFESSIONAL EXPERIENCE

- **Information Sciences Institute, Marina Del Rey** — Los Angeles, United States
  Graduate Student Worker – MINT Project — *Oct. 2018 - Present*
  - Automating Integration of complex geological, agricultural and economical models to forecast effects of human activities on natural resources.
  - Designing and testing APIs in Java using SparQL queries to retrieve graph based data from various models in the MINT Catalog.
  - Incorporating Knowledge Graphs and developing UI describing various ontological relations using Polymer and D3.js.
- **Indian Institute of Technology, Bombay** — Mumbai, India
  Research Intern – Center for Indian Language Technology — *Dec. 2017 - Apr. 2018*
  - Developed a Lexical Simplification Tool which involves simplifying complex sentences in the Wordnet.
  - Designed and created APIs in Python using Django REST Framework for QA System, user-base management (with OAuth 2.0 API Security) and Wordnet Visualizer.
  - Built a feature based model to obtain various characteristics of words such as syllable count, etymology, morphemes and n-Gram for word complexity detection. Achieved a baseline kappa score of 0.498 on trial and 0.204 on test sets.

PERSONAL PROJECTS

- **Recommender System for Movie Ratings** — *Sept. 2018 - Oct. 2018*
  Scala, Spark
  - Built a robust recommendation system using user-item based Collaborative filtering.
  - Using Scala and Apache Spark to handle 30M ratings of MovieLens dataset and to get the RMSE value of 0.91.
- **Generic Web Service Authenticator** — *May 2018 – June 2018*
  Python, MySQL, Kubernetes
  - Created a generic API authentication module with user-level based access rights feature using pure Python Sockets. Used MySQL to store authentication tokens and Kubernetes for load balancing.
- **Twitter Stream Analysis** — *Sept. 2017 – Oct. 2017*
  Java, Storm, Apache Kafka, Twitter4J
  - Using Storm Topology to generate a list of popular words used in twitter. Ingested data from a Storm spout and a Kafka spout and processed downstream using Storm Bolts. Developed a Word Cloud for analysis.
- **Aura Player** — *May 2017 – June 2017*
  Node.js, Google Speech to Text, GCP, IBM Watson NLU, Spotify API
  - Created a Mood based music recommendation player which suggests a playlist of songs based on your current mood.
  - Performed Sentiment Analysis on text to compute the score which was fed into the Spotify API to create playlist.
- **P2P File Transfer** — *Mar. 2017 – Apr. 2017*
  Node.js, Peer.js, webRTC, SendGrid, Heroku, Docker
  - Designed a real-time browser-to-browser communication system for transferring files from one device to multiple devices without uploading files to the server.
  - Engineered the solution of asynchronous merging of blobs resulting in out of sequence data delivery.