

Siddharth Mal

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Portfolio - siddharthmal.netlify.app

OBJECTIVE

Being a self-motivated **master's** student from the University of Central Florida, I am seeking a **full-time opportunity** in **IT/ Software Engineering/ Development/Web Development** fields. I have experience in developing different applications in the full life cycle of the software design process including requirements, analysis, design, interface implementation, testing, and maintenance in **Agile methodology, Full Stack, and MERN Stack**.

EDUCATION

University of Central Florida, Orlando, Florida Aug 2019 – May 2021
Master of Science, Computer Science GPA- 3.917/4
Relevant Course Work - Design & Analysis Algorithms, Advanced Computer Architecture, Computer Vision, Advanced Text Mining, Machine Learning, Advanced Artificial Intelligence, Data Intensive Computing.

Savitribai Phule Pune University, Pune, India Aug 2015 – June 2019
Bachelor of Engineering, Computer Science Engineering GPA- 7.3/10

SKILLS

Languages: Python, Java, HTML/CSS, JavaScript, C++ | **Databases:** Oracle SQL, SQL Server, Mongo DB, Elasticsearch | **Frameworks:** Spring, Express.js
Cloud Applications: Google Cloud, Amazon Web Services, Firebase | **Android Applications:** React Native, Android Studio
Soft Skills: Collaboration, Research, 14 Leadership principles | **Libraries:** React.js, NumPy, Scikit-Learn, TensorFlow, OpenCV, Spacy, Pandas, Pytorch
Tools and Runtimes: Node.js, Agile Tools, Visual Studio, Git, Docker, VMware, HDFS, YARN, Spark, ELK stack | **Architecture:** SaaS, SOAP, REST

RELEVANT EXPERIENCE

Teaching Assistant in University of Central Florida, Orlando, FL Aug 2019 – Present
CS1 & C/C++ Programming Lab – For undergraduate CS students to implement basic data structures.

- Supervising and assisting 500 students to solve programming exercises based on Linked Lists, Stack, Queue, Trees, etc.
- Providing doubt clearing sessions and responsible for grading assignments, class participation, and exams.

PROJECTS

Real time Streaming and Sentiment Analysis Nov 2020
Scraping out live streaming of tweets from **Twitter API** (tweepy) related to the presidential elections and sentiment analysis of the candidates.

- Use of Transformation function on 30,000 tweets with **PySpark Streaming** on geolocation and sentiment analysis in RDD stream batches.
- Implemented **Accumulators** on RDD batches and perform sentiment analysis using **Textblob** to extract sentiment polarity.
- Applying **ELK stack** (Elasticsearch, Logitash, Kibana) to store data using Elasticsearch and visualizing using Kibana dashboard.

Amazon Apparel Recommendation System Apr 2020
Content-based recommendation on title, text, description text, and images using Amazon dataset.

- Text preprocessing and Feature Selection **183,000** data points, having **19** features each using text-based techniques - **Bag of Words, IDF, TF-IDF**, and Text Semantics-based techniques - **Average Word2Vec, IDF weighted Word2Vec** on text features of the data points.
- Incorporated **Transfer Learning** using **VGG 16** on 4096 channels to further optimize and produce 20 best recommendations.
- Performed **A/B testing** on multiple models to see which model outperforms based on Euclidean Distance and Cosine Similarity.

Cache and Branch Predictor Simulator Feb 2020

- Implemented branch predictor simulator for 3 branch prediction techniques - **Bimodal, Gshare** and **Hybrid** in **GCC compiler** using C++ for 1- and 2-way associativity with **100 % validation** and mystery run for 100 log files.
- Implemented **L1** and **L2 cache** simulators for 3 cache policies - **LRU, FIFO** and **Optimal** Cache in GCC compiler using C++ with **94 %** validation on 100 log files.

Natours (Tour Management App) - <https://damp-bayou-78214.herokuapp.com/> Oct 2019
A feature-rich tour plan app with **RESTful** API where users can sign up, login, book and visualize multiple tours using **Mapbox** API.

- Advanced authentication and authorization (including password reset), sending emails using **Sendgrid** and uploading files.
- Encryption, sanitization, rate limiting, credit card payments with **Stripe API**.
- CRUD operations with **MongoDB** and **Mongoose**, testing using **Postman** and Server-side website rendering with **Pug** templates.
- Integrating frontend with backend by implementing **REST** architecture and **MVC** framework and utilizing **AJAX, JQuery** with **NodeJS** by deploying in **Heroku**.

PUBLICATION

Survey Paper – Fraud Detection and Pattern Matching in Insurance Medi-Claims (IRJET)
<https://www.irjet.net/archives/V6/i1/IRJET-V6I1104.pdf>