# NEIL CHITRE

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## EDUCATION

**M.S. in Data Science, University of San Francisco** **July 2022 - June 2023**

Relevant Coursework: Advanced Machine Learning, Distributed Computing (Apache Spark), Linear Regression, A/B Testing, Data Structures & Algorithms, NoSQL, Data Acquisition, MLOps.

**B.Tech in Computer Science, Manipal Institute of Technology** **July 2014 - June 2018**

Relevant Coursework: Data Structures & Algorithms, Database Management Systems (SQL), Object Oriented Programming, Operating Systems.

## PROFESSIONAL EXPERIENCE

**Boost Sport AI** **Nov 2022 - Present**

*Data Science Intern*

- Developed a sport-agnostic game prediction model using feature engineering and ELO ratings algorithm which forecasted the **win probability of sports teams** across leagues including the EPL, NBA and NFL.
- Developed automated **Natural language generation** systems in Python to produce real-time previews and recaps for sporting leagues such as the English Premier League and NCAA Big Ten Conference.
- Implemented standard sport-agnostic functionality in **Python (SQLAlchemy ORM)** to query and compile data from SQL databases into JSON.

**Philips Healthcare** **July 2018 - May 2022**

*Software Engineer II*

- Implemented the ROCC software using ReactJS, Java and Python which enables radiologists to remotely perform multiple MRI and CT scans simultaneously. Reducing patient wait time by **14%**.
  - Designed a highly efficient and scalable database schema on **PostgreSQL** for ROCC.
  - Developed a high-performance backend **Python** application using **Flask** and **RabbitMQ**, enabling seamless onboarding of new customers to the ROCC platform.
  - Wrote fast and efficient queries using **GraphQL** API, reducing the application load time by **20%** and patient connect time from 8 seconds to 3 seconds.
  - Designed and developed microservices in **Java** to enhance the security and functionality of the ROCC application by implementing robust user authentication and authorization.
  - Implemented secure **Rest APIs** using **Java Spring Boot** connecting the ROCC user interface with backend infrastructure.
  - Implemented the critical video calling feature for ROCC using **ReactJS** and Twilio API, enabling real-time communication between radiologists and technologists.
  - Designed and implemented **JUnit** test cases for Java microservices, to increase code coverage and ensure the quality of software deliverables. Collaborated with cross-functional teams to troubleshoot issues, resulting in timely resolution of defects and improved system reliability.

**Wai Technologies** **May 2017 - August 2017**

*Data Science Intern*

- Collaborated with the development team to build a **Recommender System** for educational modules, using **Matrix Factorization** to predict ratings for each user and item, enabling customers to discover relevant and engaging content.

## ACADEMIC PROJECTS

**E-Commerce Product Search** (Github Repo)

- Implemented an efficient and scalable product search architecture to process large scale data and provide accurate results to users.
- Used **Airflow** to build a streamlined ETL pipeline that automatically fetches data from ASOS API, pre-processes it, and stores it in a **MongoDB** database. Used TF-IDF in **SparkML** to create rich word embeddings and recommend similar products.

**Search Engine Implementation using Hashtables**

- Implemented a search algorithm using Hashtables to efficiently search through a large corpus of **4500** news articles. Reduced the search time from **5 seconds to 0.02 milliseconds**.

## SKILLS

- Programming Languages and Databases: Python, SQL, Java, ReactJS, Shell Script, Typescript, MongoDB.
- Technologies/Frameworks: Pandas, Numpy, Scikit-learn, Spark, Spark MLLib, Airflow, Hadoop, Kafka, Flask, Java Spring, AWS S3, GraphQL, RabbitMQ, Git, PyTorch, Google Cloud Platform (GCP).
- Machine Learning: Linear Regression, Decision Trees, Random Forest, Boosting, Recommender Systems.