# Viraj Sonavane

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## EDUCATION

**Master of Science (MS), Computer Science** | California State University, Chico, CA | CGPA: 3.4/4.00 **December 2021**
**Bachelor of Engineering, Electronics and Telecommunications** | University of Pune, India | First Class **May 2017**

## TECHNICAL SKILLS

**Languages:** Java, JavaScript, JSON, HTML5, CSS3, TypeScript, ES6, Python, Golang, Pig Latin, C, C++.
**Libraries:** ReactJS, Redux, NodeJS**,** RESTful API, NumPy, Keras, SciPy, Scikit-learn, Pandas, Matplotlib, TensorFlow.
**Framework:** AngularJS, ExpressJS, Django, Bootstrap, Material-UI, Foundation 6.
**Platform:** Docker (PaaS), DockerHub, Azure, Amazon Web Services (AWS), Google Cloud Platform (GCP), GitHub, Apache Pig, Jupyter Notebook, Ubuntu, Linux, Mac, Windows.
**Databases:** SQL, MySQL, MongoDB, Oracle, SQLite.
**Tools:** CI/CD pipeline (Continuous Integration/Continuous Deployment), Git, Travis-CI**,** Visual Studio Code**,** Eclipse, VMware, Google Colab.
**Coursework:** Algorithms and Data Structures, Algorithms and Computability, Applied Machine Learning, Machine Learning, Computer Security, Advanced Object-oriented programming (OOPs), Web Technology, Web Programming Fundamentals, Software Design and Maintenance, Software Engineering, Introduction to Databases, Computer Networks.

## PROJECTS

**Research Project: Covid-19 Peak Predictor using Machine Learning Algorithms** [Streamlit | Python] **Aug-Dec 2021**
- Used live Covid-19 data provided by OWID (Our World in Data) to develop the machine learning models in Python that can predict next COVID-19 peak wave using ARIMA, LSTM and FBProphet models.
- Tunned the hyperparameters of the models to improve the forecast and successfully predicted the upcoming wave with **90% accuracy**.
- Created a CI/CD pipeline between GitHub and Streamlit to reduce **build time by 70%** and deploy the ML application on Streamlit.

**TradeSpot Web Application** [Django | Foundation | Docker | GCP] **May-Aug 2021**
- Integrated a full-stack web application using Django and Foundation 6, where the user can sell and buy used products.
- Developed the frontend of the application using Foundation UI and implemented different RESTful APIs to facilitate the backend models of the web applications.
- Used the Docker container to run the application and deployed the web application on the Google Cloud Platform (GCP).

**Naive Bayes email classifier** [C++] **Jan-May 2021**
- Constructed a ML based Naive Bayes classifier in C++ that classifies email into spam and ham by calculating the Specificity, Sensitivity and Accuracy.
- Amplified the model **accuracy to 67%** by using the Laplace smoothing to overcome the overfitting problems.

**Wanderlust Web Application** [Angular | NodeJS | ExpressJS | MongoDB | DockerHub | HTML | CSS | Bootstrap | AZURE] **Jan-May 2021**
- Lead a team of three to develop a single-page web application (MEAN stack) that recommends famous travel locations, surrounding hotels with reviews and travel-vlog for that location, based on real-time weather conditions.
- Worked on the complete front-end design of the web application using Bootstrap 4.6, HTML5, CSS3, JavaScript, TypeScript and containerized the application using docker to decrease the **memory usage by 4 times**.
- Implemented the user authentication for the application using Auth0 and Incorporated Google APIs that handles **100 requests per user** to fetch the data directly onto the website instead of static data.
- Revamped the SDLC process with Agile mythologies and Automated a CI/CD (Continuous Integration/Continuous Deployment) pipeline using GitHub, Docker Hub and AZURE to deploy the updates, boosting the **build time of the web application by 85%.**

**Covid-19 Path to heard immunity Predictor using Machine Learning Algorithms [**Python**]** **Jan-May 2021**
- Collaborated in a team of three and devised the ML models in Python to predict when countries will achieve heard immunity using ARIMA, LSTM and FBProphet models over live Covid-19 dataset provided by OWID (Our World in Data).
- Achieved **92% accuracy** with ARIMA model, **95% accuracy** with FBProphet model and visualized the predictions with matplotlib, scatterplot, and seaborn.

**Playbuddy Web Application** [ReactJS | NodeJS | ExpressJS | MongoDB | HTML | CSS | Material-UI] **Aug-Dec 2020**
- Innovated the idea behind the application and coordinated in a **group of 5** to create a single-page web application (MERN stack) that helps to find a game or hobby buddy around you.
- Designed and implemented the front-end of the web application using HTML, CSS, Material-UI and React-Redux with **20 reusable components.**
- Streamlined the application development procedure under Agile methodologies (Kanban board and Scrum) to **improve the production time by 25%.**

## CERTIFICATE & PUBLISHED PAPERS

- Completed Certified Training on Core Java and Advanced Java.
- Participated in National Cyber League (NCL) Spring 2020 and ranked 902$^{nd}$ out of 5357.
- Published the Paper of "*Intelligent Device-to-Device Communication in the Internet of Things*" in International Journal for Modern Trends in Science and Technology, Volume 3, Issue 4, April 2017.