

# Mangalnathan Vijayagopal

+1 919-527-4563 | [mvijaya2@ncsu.edu](mailto:mvijaya2@ncsu.edu) | [linkedin.com/in/mangalnathanvg/](https://www.linkedin.com/in/mangalnathanvg/) | [github.com/mangalnathanvg](https://github.com/mangalnathanvg)

## EDUCATION

### North Carolina State University, Raleigh

May 2021

Master of Computer Science - **3.833/4.0**

### Amrita Vishwa Vidyapeetham, Bangalore, India

May 2018

Bachelor of Technology, Computer Science and Engineering – **9.40/10.0**

## TECHNICAL SKILLS

Programming:	Python, Javascript, C++, Java
Databases:	MySQL, PostgreSQL, MongoDB, pgAdmin4
Web Technologies:	Django, ReactJS, Redux, HTML, CSS, Bootstrap, Express, NodeJS, npm
Machine Learning:	scikit-learn, Numpy, Pandas, Support Vector Machines, Logistic Regression
Software:	Visual Studio Code, Sublime Text, Google Colab, Rstudio, Git, Supervisor, JIRA, Crucible, Heroku
Methodologies:	Agile, Iterative, Scrum, SDLC

## PROFESSIONAL EXPERIENCE

### Center of Innovation Management Studies, Raleigh, United States of America

January 2020 – present

#### Software Developer Intern

- Developed a software subsystem to predict the virality of chemicals for the American Coatings Association (ACA) to enable them to make informed business marketing decisions. My role was to develop a Django Application to integrate the virality prediction model already in place.
- *My Role:* Designed and implemented the database architecture using PostgreSQL and pgAdmin 4 with optimized database procedure calls for faster performance in data transactions in the system
- *My Role:* Implemented and tested the tweet capture tool using Python, Tweepy and psycopg2 to collect and segregate around 2 million tweets.
- *My Role:* Programmed utility scripts using Python and PyTrends to capture google trends data for the chemicals of interest along with cleaning tweet text by stemming each term of the tweet resulting in improving the accuracy of virality predictions

### Cerner Corporation, Bangalore, India

January 2018 – June 2019

#### Software Engineer

- Handled technical change requests made by clients to investigate and fix bugs, develop and support code enhancements in object oriented C++ which resulted in the improvement of the overall performance of Cerner Millennium, a software suite extensively used for ICU charting by various healthcare institutions
- Implemented automated test scripts using Eggplant to rigorously test the functional workflows of Cerner Millennium software suite and eliminate manual testing
- Directed and supervised extensive code reviews using Crucible to ensure clean and efficient code delivery to clients
- Facilitated cross-team communication by organizing and conducting meetings with team members and managers to resolve overlapping issues and to gather workflow information related to change request under context

## PROJECTS

### Arrhythmia Prediction and Diagnosis using Data Analysis – Automated Learning and Data Analysis Team Project

- *My Role:* Performed a subset of data pre-processing steps i.e eliminating redundant data, approximating missing values and data normalization on the dataset to improve the prediction accuracy of the machine learning models.
- *My Role:* Implemented Support Vector Machines(SVM) using python and scikit-learn to predict the type of Arrhythmia given the numerical format of ECG data with a prediction accuracy of 73%

### Feedback Collection Application ([Deployed on Heroku](#)) - Node with React

- Developed a full stack web application to collect feedback through survey forms from multiple users by email using MongoDB, Express, React, Redux, NodeJS and npm packages.
- Enforced user authentication in the application using PassportJS and Google + API to provide reliable security to users

### Face Recognition Application ([Deployed on Heroku](#)) – Full stack Web Development

- Implemented and deployed a full stack web application that uses ClarifAI, an Image Recognition API to detect faces in any image obtained from URLs entered by a registered user.
- The full stack application is comprised of ReactJS for front-end, NodeJS for back-end and PostgreSQL for the database components