

# Nikhil Bharadwaj

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## EDUCATION

**Master of Science, Computer Engineering**

**Aug 2019 - Dec 2021**

**Syracuse University, Syracuse, NY**

Relevant Coursework: Social Media Data Mining, Advanced Data Structures, Introduction to System on Chip Design, Object Oriented Design, Object Oriented Programming using C++

**Bachelor of Engineering, Computer Science & Engineering**

**Jul 2012 - Jun 2016**

**Sir M Visvesvaraya Institute of Technology, Bangalore, India**

## TECHNICAL SKILLS

<b>Programming Languages</b>	:	C++, Python, JavaScript, C, SQL, NoSQL
<b>Technologies</b>	:	HTML, CSS, REST API, MongoDB, Express.js, Node.js, Docker
<b>Software Tools</b>	:	Eclipse, Visual studio, Jupyter notebook, JIRA, Git, Selenium, Postman, Apache JMeter
<b>Methodologies</b>	:	Scrum, Agile software development, Object Oriented Programming (OOP), Containerization

## EXPERIENCE

**Software Engineer Intern**

**TruWeather Solutions**

**Mar 2020 - Present**

- Optimized core normalization layer logic to reduce response time from average 24 seconds to average 1.4 seconds
- Completed development of mission cast which is a custom weather data analytics software using pandas in python
- Restructured mission cast code by removal of hard coding to improve flexibility and scalability of product
- Implemented parallelism in mission cast using concurrent.futures package to reduce response time by 25%
- Performed load testing and server cost analysis on AWS EC2 to optimize server size resulting in over \$500 cost reduction per month

**Systems Engineer**

**Unisys India Pvt Ltd**

**Oct 2018 - Aug 2019**

- Designed an automation framework to improve regression test coverage by 65% for each module release
- Built a framework for generation of automated test scripts using Python to increase speed of test case generation by 40%
- Automated configuration process of MCP operating system using Python to enable new system configuration in minutes instead of days
- Mentored new associates on working of MCP operating system and WFL scripting (Unisys proprietary) for smooth transition of project

**Associate Systems Engineer**

**Unisys India Pvt Ltd**

**Aug 2016 - Oct 2018**

- Created an internal site to display Jira metrics using MERN stack to track test case completion progress
- Conducted Root Cause Analysis to fix bugs for handling edge case scenarios in platform management software called ClearPath Forward
- Developed automation framework using Selenium with Java reducing time taken for regression testing by 80%
- Researched and documented best practices for testing applications with machine learning capabilities as a part Unisys FIT program

## ACADEMIC PROJECTS

**Data Security over Cloud based on Hadoop**

- Devised a system to set up cluster of servers and multiple clients using Hadoop to simulate real world scenarios
- Applied LFSR algorithm to data being loaded and transferred from client to encrypt it and provide security during transmission
- Leveraged SHA algorithm to ensure integrity of file is maintained to verify authenticity of transferred files

**Nirvana**

- Developed responsive blog site using HTML and Bootstrap to support all devices including desktops, tablets and mobile phones
- Implemented website using RESTFUL API's following MVC architecture pattern to ensure separation of concerns
- Built an application using MongoDB, Express.js and Node.js to display scenic places for a short vacation based on user search criteria

**Analysis on US Elections 2020**

- Extracted data from twitter using twitter API as a live data source to avoid overfitting while developing model for sentiment analysis
- Cleaned data using string, nltk library and performed stemming using PorterStemmer to make data fit for analysis
- Created several models including SVM, Random forests and Neural Networks and evaluated metrics for each based on model accuracy

**Ruse**

- Developed responsive android application for remote mobile phone access and file retrieval using text messages
- Leveraged Android location API to fetch and return location of phone if lost to prevent theft and accidental loss
- Implemented JavaMail API to retrieve contacts, files and image resources from remote phone and send it as an email attachment to client

**Dijkstras and Prims using Heap sort**

- Dijkstras and Prims algorithm are usually implemented using array data structures whose implementation takes time complexity of  $O(n^2)$
- Implemented above two algorithms using linked lists and Heap sort to reduce time complexity to  $O(n \cdot \log n)$