

AKSHAY RAVINDRAN

akshayravindran96@gmail.com | https://medium.com/@akshay_ravindran | <https://github.com/akshay-ravindran-96> | <https://www.linkedin.com/in/akshay-ravindran-096>

13805, Jefferson Park Drive, Apt 2201

Ph: 703-826-3797

Herndon, Virginia, 20171

SUMMARY

- Highly skilled in using **Object Oriented Programming** languages like **Java, C++, Python**.
- Created a **Fake News Classifier Algorithm** with **92.82%** accuracy by devising **TF-IDF ML Model (Python)**.
- Proficient in **Machine Learning Models, Image Processing (OpenCV)** and **Data Analysis (sklearn, scipy)**.
- Seasoned in developing **responsive full stack** web applications using **AngularJS** and **Bootstrap**.
- Strong Understanding of **Software Development Life Cycle, Agile Development, CI/CD** and **GIT**.
- Deep Knowledge of **Cloud Integration**, delivering application using **AWS, Azure** and **Google Cloud**.
- Competent in **Python, Database** and **Systems Design, Hadoop MapReduce** and **Apache Airflow, Spark**.
- Demonstrated ability to work **cross-functionally, cross-site** and **cross-culturally** and excellent **team player**.
- Thorough knowledge of **CS fundamentals** and understanding of real time **software characteristics** like **IPC**.
- Experienced working with **Relational Database design, NoSQL** and **data modelling** in providing **scalable** and **robust** application. Chaired as a **Lead Coder** in a **Full Stack Web Developer Project**.
- Created a **Sudoku Game** using **Python Pygame** with an **auto-solver** based on **Back Tracking Algorithm**.
- Develop **processing algorithms** to **improve** image/ video quality. **Assisted** senior engineers in developing algorithms. Experienced in working with various **Python Integrated Development Environments** like **IDLE, Atom, Eclipse, PyDev** and **Sublime Text**.

EDUCATION

Master of Engineering in Computer Science

University of Cincinnati, *Cincinnati, Ohio*

December 2019

GPA 3.4/4.0

Bachelor of Engineering in Computer Science

Sri Krishna College of Engineering & Technology, *Coimbatore, India*

April 2018

GPA 8.9/10

WORK EXPERIENCE:

Syneren Technologies, Arlington, Virginia **Role: Software Developer**

Jul'19 – Present

[Python, Flask, SQLAlchemy, MySQL, AWS, HTML5, CSS3, Angular, Javascript, Bootstrap, Ajax]

- Created application using Flask using **Restful API**. Ensured high **quality data collection** and maintaining the integrity of the data. Designed and developed the data management system using **MySQL**. Created **User Interface** screens using **HTML, AJAX, CSS, Java script**
- Build SQL queries for performing various **CRUD** operations like create, update, read and delete. Used **Flask Database API's** to access database objects. Handled all the client-side validation using **JavaScript** and **jQuery**. Hands on experience working in **WAMP** (Windows, Apache, MySQL, and Python/PHP) and **LAMP** (Linux, Apache, My SQL, and Python/PHP) **Architecture**.
- Creating unit test/regression **test framework** for working/creating new code. Build all **Database Mapping** classes using **Flask Generic, Class** and functioned based methods. Experienced in **Agile** Methodologies and **SCRUM** Process. **Involved** in the project analysis, **design**, and **implementation & debugging**. Developed **leadership** skills and managing the team spirit.
- Champion the **improvement of identity and access** management processes, related to User Verification. Experience in working with **AWS(Amazon Web Services)** cloud platform. Used the **Model View controller (MVC)** framework to build **modular** and **maintainable** applications.
- **Chaired** and managed a team of **three** in developing new **Cloud Recommendation** software.

TECHNICAL SKILLS

- Programming Skills : **Java (J2EE/J2SE), Python, C, C++, C#, MATLAB, Hadoop MapReduce**
- Python Frameworks : **Flask, pandas, numpy, sci-py, Django, pygame, sklearn, pySpark**
- Web Technologies : **HTML5, CSS3, PHP, Servlets, JSP, React, Angular5, JQuery, AJAX**
- Databases : **My SQL, Oracle 11g, PL/SQL, PostgreSQL, SQLite, IBM DB2**
- Operating System : **Windows, Linux/Unix, Android, Macintosh**
- Web Server : **Apache Tomcat, Node JS**

PROJECTS

ENCRYPTION SYSTEM in NETWORK SECURITY

Jan' 2019 to Apr' 2019

[Environment: Java, Security, Primality, Socket]

- Created an encryption system using RSA algorithm and implemented using **Java**.
- Implemented **Diffie-Hellman key** exchange which increased the security of communication.
- Achieved authentication and integrity using **Zero Knowledge Proof (ZKP)**.
- Implemented **Miller-Rabin test** which increased efficiency in validating prime numbers.
- Applied **TCP/IP** protocol for message transfers which restricted the unauthorized users.

Data Structures and Algorithms

Aug' 2018 to Dec' 2018

[Environment: C, Java, TST, Linked List, Trees, Dynamic Programming]

- Implemented the **Subset Sum problem** in **Java** using different algorithms such as Greedy, Divide & Conquer, Brute Force and Dynamic approach.
- Identified the efficient algorithm by comparing the **time complexity and space complexity**.
- Created an **AutoComplete Bot (O(log N))** with **Ternary Search Tree** in **C++**.
- Implemented a **Virtual Library** with **C** which has all the functionalities of a **Library System**.

ABA! A BLACK HOLE AVOIDANCE ALGORITHM IN MANET

Aug'2017 to Apr' 2018

[Environment: Java, Security, Primality, Socket]

- Developed a novel algorithm using **Java** to detect and avoid black hole attacks in **Mobile Adhoc Network** which exceeded the Packet Delivery Ratio by 70%.
- Implemented **Dijkstra's algorithm** which increased the efficiency of detecting black hole by **20%**.
- Used **NS2** Network Simulator for establishing network configurations for visualizing the network.

Load Balancing on Multicore

Jan '2016 – Mar '2017

[Environment: Java, Multi-threading]

- Identified load balancing necessities to schedule and distribute tasks effectively to all the cores using java **multi-threading**.
- Used java.util.concurrent **API** to implement work stealing by adding java Dequeues to steal the tasks from **heavy loaded cores**.
- Implemented **central job queue** for processes from which the scheduler **uniformly distributes** the tasks to all cores.

PUBLICATIONS

- Published an **eBook** titled as “**100 Best Programming Challenges! A must have for Coding Interviews**” in **amazon Kindle**.
- Developed an algorithm using **C++** for encryption and published as a paper ‘**Mesh Encryption: A Multifarious Synchronized Haze**’ in the International Journal of Computer & Trends.
- Created a routing algorithm based on trust value of each node in a network and published as a paper ‘**TRIF – Trust Based Routing and Intrusion Detection System using Fuzzy logic for Mobile Ad Hoc Networks**’ in International Journal of Pure and Applied Mathematics.
- Published a paper ‘**ABA! A Black hole Avoidance Algorithm in MANET**’ in IJPAM.
- Published a survey paper ‘**Attacks on Cryptographic Services: A Survey**’ in IJSER.