MUHAMMAD **AREEB YOUSUF**

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GitHub: https://github.com/shinobi-404

Languages: Python, Java, C, C++, CSS, HTML, JavaScript

EDUCATION

University of Central Florida (UCF) | B.S in Computer Science   **August 2021** –Present
- **Courses**: Computer Logic & Organization, Computer Science 2, Discrete Mathematics, Security in Computing   **Orlando**, FL
- **GPA**: 4.0
- **Extracurriculars**: Knight Hacks Club, Google Developer Student Club,
  Society of Hispanic Professional Engineers Club (SHPE), Knights Experimental Rocketry Club (KXR)

PROJECTS & EXPERIENCE

Generic Skip List (Sorted Set) **| Java**   **Summer 2023**
- Balanced multi-level structure for efficient insertion, deletion, and search operations.
- Implemented dynamic node height adjustment for optimization.
- Conducted comprehensive testing on various dataset sizes and edge cases.
- Successfully integrated Skip List into other algorithms and applications.

GPS System | Java   **Summer 2023**
- Implemented Dijkstra's, Bellman-Ford, and Floyd-Warshall algorithms to compute optimal paths from a coordinate-based graph input file to construct diverse graphs for analysis.
- Developed a tool to compare algorithms and input coordinates and build graphs.
- Automated the creation of detailed output files, encompassing paths, distances, and performance metrics.

BioTree (Binary Search Tree) **| C**   **Spring 2023**
- Developed a nested binary search tree in C for custom classification, with for inserting, deleting, and searching nodes.
- Tested the binary search tree using assert library with multiple test cases to ensure correct functionality.
- Optimized tree performance with customized classification, preventing imbalance and enhancing efficiency.

Vigenère Cipher | Python   **Fall 2022**
- Generates and displays a new file the alphabetic letters in a file using the Vigenère cipher.
- Using two command line parameters the file with the encryption key and another plaintext file to be encrypted.

School Management System | Java   **Fall 2022**
- Allows user to collect, store and display the data of students, faculty, and staff members.
- The program can display tuition fees for students and assign the subject for instructors.

WORK EXPERIENCE

NASA |Modeling, Simulation and Programming Intern | Software Engineer   **August 2023** –Present
- Engineered real-time surveillance tools for project safety and compliance with data migration.
- Utilized data transfer solutions for VR/AR environments into various formats and Unreal Engine.
- Composed Blender to create custom 3D models, tools, and immersive VR/AR environments.
- Facilitated the creation of immersive simulations by efficiently migrating data.
- Developed scripts and applications to enhance surveillance capabilities for mission planning and training.
- Documented project details and provided clear guidelines for effective communication within the team.

Konnect | Database and Systems Management Intern   **Oct 2022 -** Present
- Built and upgraded databases through relevance in A.I. ranking for app development.
- Mediate and collaborate with team on project infrastructure.
- Evaluate, collect, research, and systemize data for database based on significance and user experience.

Socio-Technical Interaction Research Lab| Research Assistant   **May 2022 - August 2022**
- Spearheaded research activities, focusing on the interpretation and investigation of adolescent risk and safety.
- Evaluated extensive data annotating (9,000+ messages weekly) while actively collaborating with team mentors.

SKILLS

- **Hard**: Object-Orientated Programming (OOP), Database System Management, Data Analysis, Web/App Development, 3D Modeling, VR/AR Development, Surveillance Tools, Data Mining, Back Tracking, Algorithms & Data Structures, Dynamic Programming
- **Soft**: Problem Solving, Creativity, Leadership, Project Management, Interpersonal Skills, Communication, Teamwork, Adaptability
- **Technologies:** Git, NumPy, Linux/Unix, Integrated Development Environment (IDE), Pandas, Unreal Engine, API, Unity
- **Languages**: English (Fluent), Urdu (Fluent), Hindi (Fluent)