Chikwanda Chisha

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EDUCATION

Dartmouth College, *Hanover, NH - Cumulative GPA: 3.73/4.0* **Jun 2026**

- *BA, Computer Science and Economics*
- Coursework: Programming and Computation, Object-oriented Programming (OOP), Calculus II & III, Introductory Statistical Methods.

Trident College *Solwezi, Zambia - Grade: A* **Nov 2021**

- *British A-Levels: Mathematics, Physics, Chemistry, Biology, and Further Mathematics*

Awards/Honors: $30k+ First Quantum Mine Limited (FQML) scholarship, Dartmouth Third Honors (2022-2023)

SKILLS & INTERESTS

Technical: Python, Java, C/C++, JavaScript,
Frameworks/tools: Github, Git Flow (Version Control), React.js, Firebase, HTML5, CSS
Languages: English, Bemba, Nyanja , French, Nigerian Pidgin, Latin
Interests: Real estate, afro dance, NBA
Certifications: CodePath Web Development (Web 101) - Expected November, 2024

PROJECTS

Tiny Search Engine *(in progress)*

- Developing a high-performance search engine in C/C++ featuring a multi-threaded web crawler, optimized indexing with inverted indices and TF-IDF scoring, achieving sub-second query times while ensuring fault-tolerance

Collaborative Graphical Editor

- Architected a real-time collaborative drawing platform using Java Socket API, implementing advanced multithreading techniques (Concurrent Execution, Synchronization, Daemon Threads)
- Designed a system supporting 3+ simultaneous users with <150ms latency, ensuring seamless real-time collaboration

Sudi

- Developed a speech tagging system implementing the Viterbi Algorithm and Hidden Markov Model (HMM), trained on curated datasets and validated on the Brown Corpus
- Achieved 96.5% accuracy for the trained Hidden Markov Model on the Brown Corpus dataset

File Compressor

- Developed a file compression tool leveraging the Huffman Encoding Algorithm, achieving over 45% reduction in file size while maintaining 95% compression efficiency
- Implemented priority queues and binary trees to optimize encoding and decoding processes

Campus Pathfinder

- Developed a campus navigation system mimicking core functionalities of Google Maps, implementing Breadth-First Search (BFS) algorithm for efficient pathfinding
- Achieved 90%+ accuracy in route recommendations

EXPERIENCE AND ACTIVITIES

Ernest Everett Just Research Program **May 2023 – Aug 2023**
Research Intern *Hanover, NH*

- Secured $10k research funding for a Computer Science project
- Collaborated with a team of four to develop a deep learning ML model that adapts to a robot's external environments using NLP and carried out interpretative experiments to understand the inner workings of the models

Academic Skill Centre (ASC) **Jan 2023 – June 2023**
Tutor - Calculus and Computer Science *Hanover, NH*

- Tutored 3 students in Calculus and Data Structures & Algorithms in Java
- Improved students' grades by an average of one full letter grade and conducted individual assessments to provide targeted support in weaker areas

ColorStack **Jan 2023 – Present**
Member

- Participate in professional development workshops and coding challenges, enhancing technical skills and career readiness in a community dedicated to increasing diversity in tech

Collis Center, **Sep 2022 – Present**
Event Production Staff - Lead Tech *Hanover, NH*

- Partnered with 8 teammates to organize, plan and execute event operations for various campus events while maintaining visual, light, and audio systems to encourage student participation