

# 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, Bash

**Frameworks/tools:** Github, Git Flow (Version Control), React.js, Firebase, HTML5, CSS, Figma

**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 multi-phase search engine in C with a web crawler, indexer, and querier, implementing recursive URL discovery, an inverted index for word-document mapping, and a query processor with boolean logic

**Personal Website**

- Designed and developed a personal portfolio website using HTML, CSS, and JavaScript, featuring interactive animations and showcasing projects and skills

**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**

- Built 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**

- Optimized file storage with a compression tool utilizing 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 95%+ 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