

MAZVITA NHIDZA

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EDUCATION

Dartmouth College, Hanover, NH

June 2028

Bachelor of Arts, Major: Engineering Sciences

Relevant Coursework: Software Design, Data Structures, Multivariable Calculus, Object-Oriented Programming, Linear Algebra, Electricity and Magnetism, Mechanics

Arundel School, Zimbabwe

November 2023

Honors/Awards: A*A*A in Cambridge A Levels

Activities: Robotics, Chess, Marimba and Mbira band, Model UN, Interact

PROJECT EXPERIENCE

Dartmouth Formula Racing Team – Mechanical

September 2024 - Present

Vehicle Dynamics Co-Lead & Aerodynamics member

- Designed and assembled the steering column using SolidWorks to meet compliance with the ergonomic requirements
- Analyzed ranges of steering angle to optimize driver comfort using anthropometric data and statistics
- Redesigned the dashboard to receive more relevant race information in real time

Nuggets: Multiplayer Game Server (Dartmouth Software Design and Implementation)

May 2025

Developer

- Collaborated with peers using GitHub and weekly meetings to create a multiplayer grid-based game in C
- Implemented UDP message protocol and multi-threaded client-server architecture to ease back-end and front-end communication
- Debugged and minimized memory leaks (except ncurses leaks) using Valgrind and GNU Project Debugger
- Improved the user interface by providing headers with logs and changing visibility on the grid for player immersion

Whack-A-Mole: FPGA game on VGA

June 2026

- Collaborated with peers using GitHub to coordinate a modular VHDL design across subcomponents for a Basys-3 FPGA Whack-A-Mole game
- Implemented SPI communication protocol for real-time joystick sampling and utilized BRAM IP blocks for graphic and game state storage
- Designed a finite state machine (FSM) to manage game flow, synchronizing inputs, score tracking, and display output
- Engineered VGA timing and synchronization logic in VHDL to render pixel-accurate, vibrant graphics on an external display
- Validated inter-module signal integrity through targeted testbenches, ensuring smooth integration of all modular subcomponents

WORK EXPERIENCE

Computer Science Department, Dartmouth College

September 2025 - Present

Teaching Assistant - Introduction to Computer Science (~200 students)

- Collaborate with course staff to structure assignments of varying complexity to assist students with a better understanding of Python problem-solving concepts
- Facilitate weekly recitation sessions of 8-10 students, focusing on code optimization and improving assessment scores
- Evaluate short and long assignments, delivering feedback within 72 hours, ensuring efficiency

Early Research Access in the Sciences(Quantitative Social Sciences), Dartmouth College

January 2025 - June 2025

Research Intern

- Statistically and quantitatively analyzed misinformation surrounding the 2025 L.A. fires by engineering a data pipeline using Python Pandas to scrape and preprocess a dataset of over 10,000 news headlines and Facebook posts
- Visualized engagement patterns using Numpy and Matplotlib tools
- Applied Natural Language Processing (NLP) using ChatGPT-assisted topic extraction and sentiment tagging for misinformation markers

Educational Technology Startup, Educait.co, New York

September 2023 - September 2024

Remote Student Intern & Ambassador

- Conducted troubleshooting sessions to fix bugs in the Educait system
- Coordinated hackathons to introduce machine learning and artificial intelligence concepts to primary and high school students
- Built up skills in data science and analysis using the pandas Python library, along with back-end database management

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- Assisted with lectures and designed curricula for onboarding the new student ambassadors

SKILLS & INTERESTS

Computer: Java, C, Python, Microsoft Suite,

Technical skills: TiG welding, Soldering, SolidWorks, Raspberry Pi

Certification: Collaborative IRB Training Initiative (CITI): Biomedical Data/Specimens Only Research (Exp. Jan 2028)

Groups: Dartmouth Formula Racing Team, Society of Women Engineers, Women in Computer Science, Kappa Delta Sorority, Soyeya dance troupe

Languages: English (fluent), Shona (native), French (intermediate proficiency)

Additional Interests: Music-Instrumentalist (Mbira, Marimba, Hand drums), Graphics design, Statistics