Ntlakanipho Mgaguli

email: ntlakaniphomgaguli210@gmail.com | GitHub | +27 64 057 8180

EXECUTIVE SUMMARY

A dedicated and proactive second-year Computer Engineering student with hands-on experience in WebGL development, data structures, and algorithms. Skilled in creating educational content and tutoring in C programming and Java (OOP), with a proven ability to simplify complex concepts for learners. Created a comprehensive WebGL course on Udemy, leveraging practical experience to simplify complex concepts like 3D cube coordinates. Aiming to showcase teaching and learning capabilities to potential employers, with a focus on long-term learning and career growth.

PROFESSIONAL SKILLS AND INTERESTS

- **Teaching and Communication**
- **Educational Content Creation (YouTube & Udemy)**
- **Technical Troubleshooting**
- **Continuous Learning and Knowledge Sharing**
- **DSA (Sort and Search Algorithms: Linear Search, Binary Search, Bubble Sort, Selection Sort, Insertion Sort, Merge Sort, Quick Sort)**
- **Game Development (Brick Breakout Game in WebGL)**

EDUCATION

Bachelor of Engineering Technology (BET) in Computer Engineering (Current)
Cape Peninsula University of Technology (Cape Town, South Africa)

High School
Blythswood Institution (Butterworth, South Africa) - 2022

STUDENT LIFE AND VOLUNTEERISM

Peer Tutor (Remote)

Provide one-on-one and small group tutoring in C programming and Java (OOP) to first-year computer engineering students.
Develop engaging lesson plans and teaching materials to help students better understand complex programming concepts.
Receive positive feedback from students on the clarity of explanations and the ability to break down challenging topics.
Demonstrate strong communication, problem-solving, and mentoring skills while supporting the academic success of peers.
(2024 - Present)

RELEVANT PROJECTS

WebGL Course Development (Remote)

Created a comprehensive WebGL course on Udemy, demonstrating the ability to simplify and communicate complex 3D graphics concepts to online learners.

RLC Circuit Calculator (C Programming)

Developed a C program that allows users to input parameters of an RLC (Resistor-Inductor-Capacitor) circuit, such as resistance, inductance, and capacitance.
Implemented various functions to calculate the remaining circuit parameters, including current, voltage, impedance, phase angle, and power factor.
Demonstrated a strong understanding of C programming concepts, such as methods, functions, and input/output handling.
Showcased the ability to apply theoretical knowledge of electrical circuits to create a practical and user-friendly application.

OTHER RELEVANT INFORMATION

Programming Languages

C (Advanced)
Java (Advanced)
MySQL (Intermediate)
JavaScript (Beginner)

Technical Skills

WebGL
Data Structures and Algorithms (Sorting and searching algorithms & actively learning others)