BOBBY FANG

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SKILLS AND SOCIETIES

- **Programming Languages:** Java, Python, JavaScript/Typescript (React), C#, F#, HTML, CSS, SQL, MATLAB
- **Game and Mobile Development:** Unity, Android
- **Spoken Languages:** English (Fluent), Afrikaans (Conversational), Chinese (Conversational)
- **Golden Key International Honour Society**

EDUCATION

Master of Science in Computer Science and Information Systems   April 2024

Nelson Mandela University – Department of Computing Sciences

Thesis Title: *Augmenting the Moore-Penrose Generalised Inverse to train Neural Networks*

Achievements: National Research Foundation of South Africa – Masters Scholarship

Tools/Frameworks: Git, Python Libraries (NumPy, SciPy, sci-kit learn, Pandas), Python ML Framework (PyTorch)

Lecture Assistant: Computing Fundamentals for Scientists [MATLAB] (1st years), Computer Networks & Architecture (2nd years), Evolutionary Computing & Intelligent Systems (Honours)

Bachelor of Science Honours in Computer Science and Information Systems   Class of 2020

Nelson Mandela University – Department of Computing Sciences

Courses: Functional Programming, Project Management, Artificial Intelligence, VR Environment Development, Compiler Construction, Electronic Commerce

Bachelor of Science in Computer Science and Applied Mathematics   Class of 2019

Nelson Mandela University – Department of Computing Sciences

Achievements: Student Merit Award for 2018

Computer Sciences: Data Structures, Databases, Parallel and Concurrent Programming in Java, Mobile Design and Development, Computer Networks & Architecture, Web Systems, Information Systems, UI Design

PROJECTS

BLENDER ADDON FOR MOTION CAPTURE USING DEPTH SENSING CAMERA (HONOURS)

Created Blender addon enabling motion capture functionality using a single depth-sensing camera, streamlining armature animation. Integrated Nuitrack SDK for data transfer, enhancing accessibility and efficiency in 3D animation.

MOBILE APP FOR RUNNING/WALKING GROUP CHALLENGES (THIRD YEAR)

Created an Android mobile app allowing users to create and join challenges with route-based participation. Leveraged Google Maps API for route computation, Google Sign-In API for authentication, and Google Fit APIs for tracking walking distance contributions. Implemented data storage on self-hosted WAMP server with MySQL database and PHP management.

AUTO BODY PARTS ERP SYSTEM

In-progress development of an ERP System for family business, aimed at replacing licensed supplier-provided system. Using Django (Python) for backend development, featuring a REST API constructed with Django REST framework. Utilizing React (TypeScript) and Material UI for frontend, ensuring cross-device accessibility via web browser.

INTERESTS

- **Cars:** avid follower of Formula One and other motorsport series, family background involving automotive industry
- **Hiking and Trail Running**