

# MASHILO KGALADI

## JUNIOR SOFTWARE ENGINEER

### CONTACT

- 0680418318
- christophermashilo@gmail.com
- https://1mashilo.github.io/Portfolio/
- 2565/74 Hamilton St., Naturena, JHB South.

### PROFILE

Dedicated full-stack software engineering student actively seeking entry-level roles to leverage my analytical problem-solving skills, strong Python proficiency, and exposure to systems programming (C/C++), foundational knowledge of DSA, Complemented by my chemistry background offers a unique perspective. I'm eager to apply my skills in Software Development Technologies, databases, and collaboration within a dynamic team.

### TECHNICAL SKILLS

- Programming Languages: Python (Proficient), C/C++
- Databases: PostgreSQL, MySQL
- Web Frameworks: Django, Flask, FastAPI
- Web Development: HTML, CSS
- Cloud Platforms: Amazon Web Services (AWS: EC2, S3)
- Tools & Technologies: VS Code, VI, Git, PowerShell, RabbitMQ, Postman, Docker, Docker Hub, Kubernetes, GitHub Actions
- Testing: pytest, unittest
- Foundations: Data Structures and Algorithms (DSA), Network Security Basics (network protocols: TCP/IP, HTTP)
- Operating Systems: Linux (Ubuntu 20.04 LTS), Windows

### PROJECTS

#### Project Title: Microservice Architecture & System Design with Python

##### Overview:

- Developed a scalable video converter application using a Python-based microservices architecture. Key components include:
- Backend Services:**Built core application logic and user-facing APIs using Flask.
  - Leveraged PostgreSQL for structured data storage and MongoDB with GridFS for optimized video file handling.
  - Asynchronous Communication:** Integrated RabbitMQ for robust message queuing and real-time updates between microservices.
  - Containerization & Orchestration:** Employed Docker for streamlined containerization and deployment flexibility. Deployed and tested locally using Minikube for Kubernetes cluster management.
  - User Experience:** Added a notification service to enhance user experience by providing timely updates on video conversion progress.

### EDUCATION AND PROFESSIONAL DEVELOPMENT

#### Coursera.org

Containerized Applications on AWS, jan 2024

#### AWS

AWS Cloud Quest, oct 2023

#### Alx Africa

Software Engineering, May 2023 - Present

#### Vaal University Of Technology

N.D Analytical Chemistry, 2015-2018

#### Project Title: Python Microservices Integration

##### Overview:

- Developed a multi-tier social media application employing a microservices architecture with Python (Django, Flask) and a React frontend. Key areas of focus:
- Backend Architecture:**Utilized Django for administrative tasks (Django Admin) and PostgreSQL for core data persistence.
  - Built the main application service with Flask, leveraging PostgreSQL for scalability.
  - Integrated RabbitMQ for robust asynchronous communication between microservices.
  - Deployment Strategy:** Simplified deployment and consistency with Docker containerization.
  - Frontend Focus:** Created a dynamic, user-centric experience using React.

### LANGUAGES

English

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### KEY COMPETENCIES:

#### Technical Problem-Solving:

- Analytical Skills
- Critical Thinking
- Debugging Skills
- Learning Agility

#### Effective Communication:

- Technical Explanations
- Collaboration and Teamwork
- Written Communication
- Active Listening

#### Project Management and Organization:

- Time Management
- Organization and Planning
- Attention to Detail
- Initiative and Proactive Approach

### PROJECTS

#### Project Title: Comprehensive Low-Level Programming Projects (ALX Software Engineering Program)

Overview: 2023

- Completed a diverse range of projects to solidify a strong foundation in low-level programming concepts:

##### Simple Shell:

- Designed and implemented a functional command-line interpreter (shell) in C, providing command execution and filesystem navigation capabilities.

##### Data Structures:

- Implemented and optimized common data structures in C, including linked lists, hash tables, and binary search trees, for efficient data management.

##### Algorithms:

- Enhanced application efficiency by implementing sorting (e.g., quicksort, merge sort) and searching algorithms, leveraging Big O notation to optimize performance.

##### System Programming:

- Gained proficiency in Linux/Unix environments through C development, utilizing system calls for process management, file I/O, and inter-process communication.

##### Additional Skills:

- Memory Management (malloc, free)
- Debugging

#### Project Title: Diverse Higher-Level Programming Projects (ALX Software Engineering Program)

Overview: 2023

##### Python Foundations:

- Classes & Objects: Modeled entities and relationships using OOP principles. Designed inheritance hierarchies to promote code reuse.
- Exception Handling: Implemented robust error handling in Python applications.
- Test-Driven Development: Wrote unit tests to validate code behavior and ensure quality.

##### SQL & Database Interaction:

- Designed relational database schemas leveraging appropriate normalization techniques.
- SQL Queries: Wrote optimized SQL queries for data retrieval, manipulation (CRUD), and aggregation.
- ORM Exploration: Integrated an Object-Relational Mapper (name it!) to streamline database interaction, mapping objects to relational structures.

#### Project Title: Airbnb Clone (Console Implementation)

Overview: 2024

##### This is first phase of full stack project

- Developed a command-line interface in Python to manage various objects modeled after Airbnb's system.
- Applied Object-Oriented Programming principles to create reusable class structures.
- Implemented a JSON-based file storage system for persistence.

##### Next Steps

- Integration of advanced storage mechanisms (a database) HTML/CSS templating for a web-based front-end. API development to bridge server-side logic and the front-end interface

**NOTICE OF PERSONAL PARTICULARS**

1. Any changes to the personal particulars in your ID Book must be communicated to all relevant parties.

**NOTICE OF CHANGE OF ADDRESS**

1. Keep the NOTICE OF CHANGE OF ADDRESS form in this pocket to report a change of address or a change in particular of your present address e.g. name of street and/or street number etc.
2. Hand in at or post to the nearest regional/district office of the DEPARTMENT OF HOME AFFAIRS

I.D. No. 950328 6027 085



S.A.CITIZEN

SURNAME

**KGALADI**



FORENAMES

**MASHILO**

COUNTRY OF BIRTH

**SOUTH AFRICA**



DATE OF BIRTH

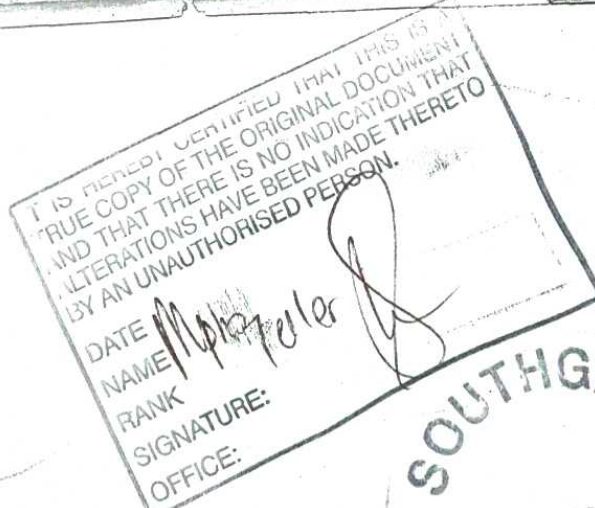
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DATE ISSUED

**2012-08-03**



ISSUED BY AUTHORITY OF  
THE DIRECTOR-GENERAL  
HOME AFFAIRS







REPUBLIC OF SOUTH AFRICA  
**STATEMENT OF RESULTS / STAAT VAN UITSLAE**  
 NATIONAL SENIOR CERTIFICATE / NASIONALE SENIOR SERTIFIKAAT  
 NOVEMBER 2014

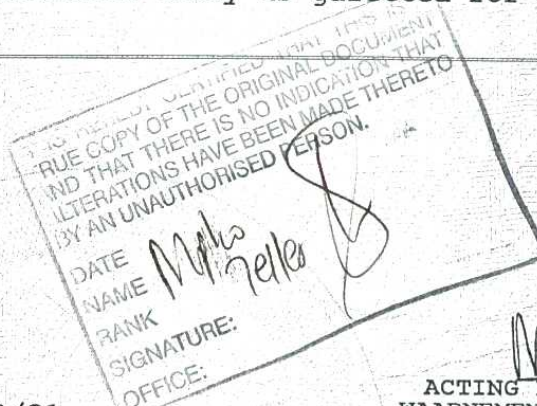
MASHILO KGALADI

EXAMINATION NUMBER / EKSAMENNUMMER: 7146731030009  
 ID NUMBER / ID NOMMER 9503286027085  
 DATE OF BIRTH / GEBOORTEDATUM 19950328  
 CENTRE / SENTRUM: (7673103) NALA SECONDARY SCHOOL

(6) GREATER SEKHUKHUNE LIMPOPO DEPARTMENT OF EDUCATION

Code Kode	Subjects Vakke	Percentage Persentasie	Achievement Level Prestasievlak
SEPHL	Sepedi Home Language	70	6
ENGFA	English First Additional Language	58	4
MATH	Mathematics	62	5
LIFE	Life Orientation	74	6
GEOG	Geography	54	4
LFSC	Life Sciences	70	6
PHSC	Physical Sciences	69	5
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The candidate qualifies for the National Senior Certificate and has met the minimum requirements for admission to bachelors' degree, diploma or higher certificate study as gazetted for admission to higher education.



DATE / DATUM 2014/12/31

ACTING HEAD OF DEPARTMENT  
 WAARNEMENDE DEPARTEMENTSHOOF

Achievement level Prestasievlak	Achievement Description Prestasiebeskrywing	Marks % Punte %
7	Outstanding achievement / Uitmuntende prestasie	80 - 100
6	Meritorious achievement / Verdienstelike prestasie	70 - 79
5	Substantial achievement / Beduidende prestasie	60 - 69
4	Adequate achievement / Voldoende prestasie	50 - 59
3	Moderate achievement / Matige prestasie	40 - 49
2	Elementary achievement / Basiese prestasie	30 - 39
1	Not achieved / Ontoereikende prestasie	0 - 29

A NATIONAL SENIOR CERTIFICATE WILL BE FORWARDED TO THE SCHOOL.

THE DEPARTMENT RESERVES THE RIGHT TO EFFECT CHANGES TO THIS DOCUMENT IF NECESSARY.  
 INDIEN NODIG BEHOU DIE DEPARTEMENT DIE REG OM WYSIGINGS AAN DIE DOKUMENT AAN TE BRING.





Jan 13, 2024

**MASHILO KGALADI**

has successfully completed

**Containerized Applications on AWS**

an online non-credit course authorized by Amazon Web Services and offered through  
Coursera

A handwritten signature in black ink, appearing to read "Morgan Willis".

Morgan Willis  
Senior Cloud Technologist  
AWS Training and Certification

A handwritten signature in black ink, appearing to read "Russell Sayers".

Russell Sayers  
Senior Cloud Technologist  
AWS Training and Certification

**COURSE  
CERTIFICATE**



Verify at:

<https://coursera.org/verify/HCTD9AY2VA9S>

Coursera has confirmed the identity of this individual and their  
participation in the course.



ALX (KEN) Limited  
The Mirage, Tower 1, 5th Floor, Chiromo Road  
Westlands, Nairobi, Kenya  
Email: se-support@alx.app  
PIN: P051716230D

## Student Transcript

Mashilo Kgaladi



*Address:* Hamilton Street 2565/74, Naturena Ext 19, Johannesburg,  
GAUTENG, 2095, South Africa  
*Phone:* +27680418318  
*Student ID:* 453686  
*Program:* Full Stack Software Engineering |  
*Start Date:* 08-14-2023  
*Grad Date:* 09-27-2024  
*Status:* ACTIVE  
*Termination Date:* -  
*Withdrawal Date:* -  
*Last Date of Attendance:* -

### Scores - Foundations 87.83%

Month	Sprint 1
Month #0 (08/14/2023 to 09/26/2023)	93.65% ✓
Month #1 (09/27/2023 to 10/25/2023)	85.58% ✓
Month #2 (10/26/2023 to 11/18/2023)	93.57% ✓
Month #3 (11/19/2023 to 12/20/2023)	81.31% ✓
Month #4 (12/21/2023 to 01/29/2024)	75.54% ✓
Month #5 (01/30/2024 to 03/02/2024)	114.72% 🍷

School Official Name Maarten van Middelburg Date 06/02/2024

School Official Signature Mide

I DO HARD THINGS