

SAMER AHMED

WORK EXPERIENCE

CTO/DATA ANALYST, ODIPO DEV LTD, NAIROBI, KENYA

2012 – Present

In charge of all technological development, assimilation and production within the company. I also use my proficiency in Python, Machine Learning, Natural Language Processing, and Network Modeling to acquire insights that are often used to create beautiful interactives and craft data-driven stories.

PHD CANDIDATE, UNIVERSITY OF GRONINGEN, GRONINGEN, NETHERLANDS

2023 – Present

Researching Generalisable and Interpretable AI for Anomaly Detection in Water Distribution Networks. Work carried out under the Distributed Systems group.

LECTURER/RESEARCHER, HANZE UAS, GRONINGEN, NETHERLANDS

2021 – Present

Molding young minds and inspiring them to achieve their engineering potential. Also involved in research work, with the aim of attaining a PhD (in collaboration with University of Groningen).

SYSTEM DESIGNER, BD KIESTRA, DRACHTEN, NETHERLANDS

2019 – 2021

Crafted (machine learning) algorithms and built physical engineering prototypes and experiments to test and validate the models. Also worked on data processing tasks and CAD modelling work. Several inventions were made, some of which resulted in patents recognizing my contributions.

TEACHING ASSISTANT, HANZE UAS, ASSEN, NETHERLANDS

2021

Crafted and taught programming tutorials for data-centric architectures, machine learning and adaptive filters; among other topics. Helped students understand practical assignments and guided them through their execution.

INTERN, BD KIESTRA, DRACHTEN, NETHERLANDS

2019

Researched, developed and implemented a machine learning model for the detection of lip misalignment in a ReadA Compact Incubator.

EDUCATOR, STEADFAST ACADEMY, NAIROBI, KENYA

2018

Formulated and taught a programming and DIY curriculum to young kids using the Scratch platform and basic electronic components.

INTERN, FABLAB, NAIROBI, KENYA

2015 – 2016

Dealt with AVR programming, and assisted in the development of low budget alternative medical suction pumps for the Kenyatta National Hospital.

INTERN, UPANDE LTD, NAIROBI, KENYA

2014 – 2015

Developed a remote water logging system (using Arduino) to monitor and report on water leaks and theft along the national water distribution network.

EDUCATION AND TRAINING

BASISKWALIFICATIE DIDACTISCHE BEKWAAMHEID (BDB), HANZE UAS, NETHERLANDS – 2023

Broadened and sharpened my pedagogical and didactic knowledge & skills in a practical manner. Was certified to teach in higher education. Also learnt how to design education.

BASIS KWALIFICATIE EXAMINERING (BKE), HANZE UAS, NETHERLANDS – 2022

Learnt how to apply the test cycle to evaluate a course's test design and its reliability.

COBOT TRAINING, HANZE UAS, NETHERLANDS – 2020

Trained in the basic control and manipulation of the UR5 cobot from Universal Robots.

ESD CERTIFICATION, ESDSITE, NETHERLANDS – 2020

Trained on the risks of Electrostatic Discharge (ESD), and prevention measures that can be used to mitigate said risks.

MSC. SENSOR SYSTEM ENGINEERING, HANZE UAS, NETHERLANDS – 2019

Graduated Cum Laude from this Master. In the course, I enhanced my skills in Machine Learning, Adaptive Filters, Data Centric Architectures, Research, Ethics and Professional Skills.

BSC. MECHATRONIC ENGINEERING, JKUAT, KENYA – 2016

I graduated with honors from this five-year course, where knowledge and practice in various aspects on Mechanical, Electrical and Electronic engineering were imparted to me. The course also involved several units on design, material science and advanced mathematics; including spatial analysis and robotics.

SOCIAL AND ECONOMIC NETWORKS, STANFORD UNIVERSITY – 2014

This was an online course offered through Coursera that taught me how to model social and economic networks and assess their impacts on human behavior.

SOCIAL NETWORK ANALYSIS, UNIVERSITY OF MICHIGAN – 2013

This was an online course offered through Coursera in which I learnt to analyze the connectivity of a network, predict the evolution of networks over time, measure the centrality of a node in a network and represent and manipulate networked data using the NetworkX library

INTRODUCTION TO DATA SCIENCE, UNIVERSITY OF WASHINGTON – 2013

This online Coursera offering taught me all the basics of data science; including data acquisition via scraping and APIs, data munging techniques, how to manipulate data at scale using Hadoop and MapReduce, statistical modeling and analysis, data visualization, and use of both SQL and NoSQL databases.

ACCA LEVEL 1, STRATHMORE UNIVERSITY – 2011

Passed all foundation papers (Accountant in Business, Management Accounting and Financial Accounting) with honors.

ADVANCED DIPLOMA IN BUSINESS, CAMBRIDGE UNIVERSITY – 2011

Marketing – Distinction, Effective Business Communication – Merit, Business Finance – Merit, Business Organization and Environment – Merit, Human Resource - Merit

PROFESSIONAL SKILLS

Intermediate Programming and Use of Open Source Repositories in Processing, Python, C/C++, and Arduino.

Social Network Analysis and Modeling

Machine Learning and Natural Language Processing

Data Visualization and Information Design

Graphic and Web Development

Text and Image Processing & Analysis

Basic Accounting, Finance and Marketing

Mechanical, Electrical and Electronic Engineering

Robotics and Automation

CAD and 3D Printing

Data Journalism and Research

Teaching in Higher Education

PERSONAL SKILLS**LANGUAGES**

Arabic – native language (very basic reading, writing and conversation)

Swahili – speak, read and write proficiently

English – fluent in all aspects of the language

Dutch (A1-A2) – still learning with the aim of passing the Dutch integration exam

HOBBIES

I enjoy playing football; reading books; watching documentaries, movies and TV shows; solving crossword and sudoku puzzles; playing video games and riding around on my scooter. I also tinker a lot with electronics and build cool projects for fun.

DRIVING LICENCE - A, B, C (from Kenya)

MEMBERSHIPS

TEDx Organiser (current holder of TEDxYouth@Kilimani license)

Association of Chartered Certified Accountants (ACCA)

Students Engineering Society (SES), Kenya

The Data Science Association
Ushahidi MAVC fellow
Code for Africa development partner
DW Akademie Fellow
Africa Data Hub partner

PATENTS

WO2023038895 - BLOOD COLLECTION SYSTEM

Permalink: <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2023038895>

Responsible for the pressure sensor system design and the mathematical model that determined the amount of blood drawn/fill level of the bottle.

WO2021023773 - DISPOSABLE BLOOD METERING DEVICE

Permalink: <https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2021023773>

Responsible for: testing and validating the paddlewheel designs for hemolysis prevention; several aspects of the overall design; and creating a model to test various suction levels to reduce the likelihood of vein collapse.

REFERENCES

ANDREJ GIRGENSON

Staff Engineer - System Design, BD Kiestra
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ODANGA MADUNG

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