Kelvin Simatwo

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Profile

Second Year PhD student at Loughborough University researching computationally efficient algorithms for augmentative and alternative communication, benefitting individuals with speech disabilities. A strong team worker with excellent academic, communication and technical skills. Enjoys researching and working on AI projects that have a positive impact on society.

Education

Augmentative and Alternative Communication | PhD
Loughborough University
01/2023 – 12/2025
Researching computationally efficient embedded classification algorithms for augmentative and alternative communication for individuals with speech impairments, working in partnership with The Ace Centre.

Data Science | MSc
Loughborough University
10/2021 – 10/2022
Grade: Distinction

Electrical and Electronic Engineering | BEng
The University of Sheffield
09/2018 – 06/2021
Grade: First Class Honours

Awards

2019
Sir Harold West Award - The University of Sheffield

2019
Northern Consortium UK Undergraduate Scholarship

2020
Northern Consortium UK Undergraduate Scholarship

Publications

Matthews, A.S., Simatwo, K., Narracott, A., Ambrogio, S., Walker, A. and Fenner, J.W., 2023. Quality Assuring a Ring Vortex Flow Phantom in Real-Time. Open Journal of Medical Imaging, 13(01), pp.11-29.
DOI: 10.4236/ojmi.2023.131002

Simatwo, K., Elsahar, Y., Hu, S., Wade, W. and Fleming, J. Computationally Efficient Breath Pattern recognition for Augmentative and Alternative Communication. IEEE Journal of Biomedical and Health Informatics. - Currently Under Review

Work Experience

Turing Internship Network Data Science and AI Intern
The Alan Turing Institute
01/2024 – 07/2024

- Working with The Alan Turing Institute's partner to solve their challenges involving data science and AI.
- Researching effective ways to enhance, classify and cluster noisy audio data, making use of available pretrained architectures.

Summer Research Placement Student
Insigneo Institute for in silico Medicine
06/2021 – 08/2021

- Refined MATLAB code that governed the working of a ring-vortex complex flow phantom and integrated its encoder into an Arduino structure.
- Designed and constructed laser circuitry that measured the velocity of ring vortices to an accuracy of 98%.
- Refined Doppler probe MATLAB code that measured micro-flow velocity.
- Integrated the encoder, Doppler probe and laser circuitry into one workflow.
- Designed and 3D-printed casings to hold transducers and electronics.
- Created a user interface that simplified the operation of the entire workflow.

Extra Curricular Activities

Data Study Group
The Alan Turing Institute
05/2023

- Worked in a team of 10 doctoral researchers and industry partners from The Environmental Investigation Agency to classify tigers based on their unique stripe patterns.
- Contributed to the exploratory data analysis and found a high class imbalance in the tiger image data. Recommended generating synthetic data as a solution.
- Reviewed and tested the model pipeline. Compared results obtained with and without masking. Gained experience with PyTorch deep learning framework.
- Contributed to the writing of the final report and preparation of presentation slides.

Microsoft Embrace Hackathon
Loughborough University
04/2022

- Collaborated with 3 team members over 2 days to design a technology-focused solution for discrimination in sport and took first place in the hackathon.
- Designed a logic app using Microsoft Azure for tweet sentiment analysis in sports-related posts on Twitter.
- Further collaborated with my team and refined the logic app after the hackathon to detect hate speech in Twitter posts.

Innovation and Technology
Enactus Sheffield
02/2019 – 02/2021

- Provided technical support to Code Creators team and made Blackboard Collaborate software tutorials for lecture delivery.
- Won the ‘Outstanding Contribution’ award in July 2020.
- Was part of a team that won the ‘Most Effective Team’ award during the 2020 training weekend.
- Made sustainability checklists for teams in the Commercial Portfolio so that each team could work towards social, economic and environmental sustainability.
- Helped in designing and publishing the Enactus Sheffield website.

Skills

TECHNICAL

MATLAB **Proficient**	C Programming **Proficient**	Python **Proficient**	Machine Learning **Proficient**

SOFT SKILLS

Communication **Proficient**	Teamwork **Proficient**	Leadership **Proficient**	Time Management **Proficient**

Problem Solving
Proficient