Vongani.H Maluleke

Berkeley, California

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EDUCATION

University of California, Berkeley, *California, USA*
Doctor of Philosophy in Computer Science   *Present*
Co-advised by Prof. Jitendra Malik and Prof. Angjoo Kanazawa—Expected Completion: May/2026

Research Interest: 3D Vision, Generative Models, and AI for Social Good.

University of Cape Town, *Cape Town, South Africa*
Master of Science in Advanced Analytics   *2019*
Co-advised by Prof. Sebnem Er and Dr Quentin Williams

Dissertation Topic: Estimating poverty from aerial images using convolutional neural networks couples with statistical regression modeling.

University of Cape Town, *Cape Town, South Africa*
Bachelor of Business Science (Specialising in Analytics)   *2016*
Advised by Prof. Ian Durbach

Thesis Topic: Identifying a cryptic frog species using acoustic data.

WORK EXPERIENCE

Berkeley Artificial Intelligence Research (BAIR), *California, USA*
Graduate Researcher   *2021 – Present*

- Conduct and publish computer vision research
- Present research talks

Deloitte Consulting, *Johannesburg, South Africa*
AI Senior Consultant   *2020 – 2021*

- Translate business requirements into technical requirements in collaboration with clients and business analyst
- Design, document, and develop AI solutions leveraging the full spectrum of cutting-edge design patterns
- Data management, governance and integration of structured and unstructured data
- Generate and present data insights leveraging cloud-based platforms (Google Cloud Platform and Azure).
- Perform descriptive, predictive and prescriptive analytics

Deloitte Consulting, *Johannesburg, South Africa*
AI Consultant   *2019 – 2020*

- Mentor and train junior developers
- Data management, governance and integration of structured and unstructured data
- Generate and present data insights leveraging cloud-based platforms (Google Cloud Platform and Azure).
- Perform descriptive, predictive and prescriptive analytics

Council of Scientific and Industrial Research (CSIR), *Pretoria, South Africa*
Graduate Researcher   *2017 – 2019*

- Prepare masters research proposal approved by CSIR and the university.
- Perform original research to solve the research problem identified in the proposal.
- Publish work around the masters research topic to peer-reviewed publications.
- Compile a master's thesis.
- Contribute to projects in the data science research group, this includes but not limited to building and deploying AI solutions to solve business problems and facilitating Data Science workshops
- Mentor Data Science interns to deliver on client-based projects.

RESEARCH PROJECTS

3D Human Motion Prediction (Under-review)

- 3D Human motion prediction conditioned on the historical motion of self and surrounding people.

Racial Bias in GANs

- Evaluated and analyzed data bias of StyleGAN2 when used for face generation to understand racial bias in StyleGAN2 models.

Poverty Estimation Using Aerial Images

- Used deep learning computer vision models coupled with a statistical regression model to estimate poverty from aerial images supplemented with national-level survey data. This hybrid model was built in the cloud.

Identifying a cryptic frog species using acoustic data

- Used machine learning to detect the presence of an endangered frog species, Afrixalus Knysna, in sound recordings.

PUBLICATIONS

Vongani H. Maluleke, Neerja Thakkar, Tim Brooks, Ethan Weber, Trevor Darrell, Alexei A. Efros, Angjoo Kanazawa, Devin Guillory. "Studying Bias in GANs through the Lens of Race." European Conference on Computer Vision (ECCV), 2022.
Project Page - Paper

Vongani H. Maluleke, Sebnem. Er, and Quentin. R. Williams. "Estimating poverty using aerial images: South African application." DataSCI, 2018.
Paper

VOLUNTARY WORK

Neurips - Black in AI (BAI), *USA*
Volunteer   2023

- Moderated a Panel at BAI workshop.
- Assisted with organizing workshop

Neurips -AI+HADR workshop, *USA*
Virtual Volunteer   2021

- Introduced speakers at the AI+HADR workshop.
- Assisted attendees navigate the Gather Town.
- Monitored Gather Town chatroom for offensive content and system glitches.

Girl Code, *South Africa*
Data Science Mentor   2020 – 2021

- Conduct Python workshops and mentor young women through their journey of becoming data scientists.

Phaphama (**NPO**), *South Africa*
Pro-bono Consultant   2015

- Offered pro-bono consulting services to small businesses and start-ups in Khayelitsha, South Africa.

Groote Schuur University of Cape Town Residence, *South Africa*
University Tutor   2014 – 2016

- Tutored FTX2024F/S (Financial Management); CML1001F/S (Business Law); BUS2010F/S (Marketing); STA3030F (Inferential Statistics); ECO3021S (Econometrics).

SKILLS & OTHERS

Interpersonal Skills: Developed good communication skills, presentation skills, problem-solving skills, and people management skills from my previous roles in industry and academia
Programming Languages: Excellent in Python, STATA, and R. Proficient MATLAB, VBA, Java Script, Java, Html, and CSS
Research Interest: Computer Vision and AI for Social Good
Interests: Painting