TLAMELO MAKATI

Inclusive AI, Digital Accessibility, Human-Centred Computing
Dublin, Ireland | tmakati04@gmail.com | +353 83 088 8527
LinkedIn | Google Scholar | Website

PROFILE

PhD candidate and interdisciplinary researcher working at the intersection of artificial intelligence, digital accessibility, human-computer interaction, and responsible innovation. My research examines how machine learning can support digital accessibility while remaining accountable to people with lived experiences of disability, accessibility practitioners, and the real-world conditions of deployment. I combine mixed-methods research, accessibility evaluation, participatory approaches, and technical prototyping to produce evidence for both academic and applied settings.

RESEARCH INTERESTS

- Inclusive AI and machine learning for digital accessibility
- Human-centred computing, assistive technology, and accessibility evaluation
- Participatory design, disability justice, and stakeholder-centred AI development
- Responsible AI, governance, evaluation, and sociotechnical impacts of AI systems

EDUCATION

PhD in Computer Science (in progress) — *Technological University Dublin | 2021–2026 expected*
- Research focus: The role of AI in digital accessibility.
- Research Ireland Centre for Research Training in Machine Learning.

BEng in Mechatronics Engineering — *Botswana International University of Science and Technology*

ACADEMIC APPOINTMENTS AND RESEARCH EXPERIENCE

Research Assistant, AILiFE+ (Artificial Intelligence Literacy for an Equitable Future) — *University College Dublin | 2026–Present*
- Contribute to a rights-based research project, co-designing an inclusive AI literacy and workforce readiness framework with community partners in Ireland.
- Support research coordination, stakeholder engagement, accessible communications, and evidence synthesis across academia and civic-society collaboration.

PhD Researcher (Computer Science) — *Technological University Dublin | 2021–2026*
- Led doctoral research on AI and machine learning for digital accessibility, focusing on opportunities, limitations, participation, and real-world impact.
- Designed and conducted mixed-method studies including 29 stakeholder interviews, a focus group, and a survey across accessibility, AI, assistive technology, and industry communities.
- Built and evaluated machine learning pipelines for accessibility-related web navigation tasks, including landmark identification from DOM structures.
- Translate findings into academic publications, talks, and practical recommendations for design, evaluation, and governance.

Visiting Researcher, Center for Accessibility and Inclusion Research (CAIR Lab) — *Rochester Institute of Technology | 2023–2024*
- Co-researched understanding perceptions of users when encountering web accessibility overlays on websites.
- Contributed to study design, synthesis, and recommendations for teams building or procuring accessibility tools.

Accessibility Evaluation Intern — *National Disability Authority, Ireland | 2024*
- Evaluated websites using Deque tooling and standards-informed accessibility methods.
- Used VoiceOver to strengthen assistive-technology-grounded interpretation of evaluation findings.

Engineering Intern — *United Nations Environment Programme | 2021*
- Supported research and synthesis on technology use in environmental and disaster-response contexts.

SURF Research Intern — *Stanford School of Engineering | 2018*
- Supported machine learning and computer vision experimentation, analysis, and research communication.

TEACHING AND SUPERVISION

Assistant Lecturer (Research Methods) — *Technological University Dublin | 2025*

- Taught and supported postgraduate students in study design, analysis planning, ethics, and inclusive research practice.
- Mentored students in producing clear, defensible research outputs for academic and mixed audiences.

Senior Demonstrator — *Technological University Dublin | 2022–2025*

- Support teaching activities, guide students through technical and research-oriented material, and provide feedback on assessed work.

SELECTED PUBLICATIONS

- Makati, T. (2025). Assessing AI's Role in Digital Accessibility. In: El Morr, C., El-Lahib, Y., da Silveria Gorma, R. (eds) Beyond Tech Fixes. Springer, Cham. https://doi.org/10.1007/978-3-031-93022-5_7
- Makati, T., Tigwell, G. W., & Shinohara, K. (2024). The Promise and Pitfalls of Web Accessibility Overlays for Blind and Low Vision Users. Proceedings of ACM ASSETS 2024. https://dl.acm.org/doi/abs/10.1145/3663548.3675650
- Makati, T. (2022). Machine Learning for Accessible Web Navigation. Proceedings of the 19th International Web for All Conference (W4A 2022). https://dl.acm.org/doi/abs/10.1145/3493612.3520463

SELECTED TALKS AND PRESENTATIONS

- Accessibility Ireland: Inclusive Machine Learning for Digital Accessibility (2026).
- ACM FAccT / research presentations on stakeholder participation, inclusive AI, and accessibility-oriented ML (2025).
- Women Techmakers Southern Africa. Introduction to AI Design and Development (2021).
- IndabaX Botswana. Introduction to Machine Learning (2021).

AWARDS, FELLOWSHIPS, AND PROFESSIONAL DEVELOPMENT

- Research Group Member, Centre for AI and Digital Policy short course (2026).
- Humboldt Residency Programme Fellow (2024).
- SFI-NSF Dublin-Rochester Mobility Fellowship (2023).
- African Drone and Data Academy (ADDA) Scholarship (2020).
- Stanford SURF Fellowship (2018).

LEADERSHIP AND SERVICE

- Co-organiser, Women in Machine Learning and Data Science (WiMLDS) Gaborone.
- Women in STEM mentor and leadership contributor.
- Director of Research and Innovation, BIUST Alumni Association.

METHODS AND TECHNICAL SKILLS

- Programming and analysis: Python, R, Jupyter, pandas, scikit-learn, Excel, Tableau.
- Accessibility evaluation: Deque Axe Auditor, Axe DevTools Pro, WAVE, VoiceOver, keyboard-only testing, WCAG 2.1/2.2, EN 301 549.
- Research methods: interviews, focus groups, surveys, thematic analysis, evidence synthesis, mixed-methods design.
- Reproducibility and workflows: Linux, Git, Docker, technical documentation, repeatable experimentation.