

Elyse Nzayinambaho

LEARNING ENGINEER | HUMAN-COMPUTER INTERACTION RESEARCHER | PHD STUDENT

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Kigali, Rwanda | Edmonton, Canada

I design and study digital learning experiences that combine Learning Sciences, Human-Computer Interaction, artificial intelligence, and instructional design to improve education across Africa and beyond.

EDUCATION

PhD in Computing Science

UNIVERSITY OF ALBERTA | IN PROGRESS

Researching how multimedia learning principles should be reconsidered for mobile-first learning environments in Sub-Saharan Africa.

Master of Science in Information Technology

BUGEMA UNIVERSITY | 2021

Thesis: A Multifactor Authentication Security Model for Mobile Banking Transactions: The Case of AB Bank Rwanda.

RESEARCH AND PRACTICE

Learning Engineer

CARNEGIE MELLON UNIVERSITY AFRICA

Designed, evaluated, and improved learning experiences for innovators. Contributed to 21 learning experiences supporting 11 innovation hubs in 12 African countries and more than 500 innovation fellows.

Adjunct Learning Experience Designer

AFRICAN LEADERSHIP UNIVERSITY | LEDI

Strengthen undergraduate learning through curriculum reviews, course audits, instructional design consultation, accessibility, Human-Centred Design, and quality assurance.

Digital Skills Programme Design

ICDL AFRICA

Led design and modernisation across AI, Cybersecurity, Blockchain, Cloud Computing, and digital literacy. Contributed to 21 programme launches, increased learner engagement by 25%, and reduced localisation timelines by 30%.

SELECTED IMPACT

21+	learning experiences designed since 2024
11 hubs / 12 countries	innovation network supported
500+	innovation fellows supported
6+ years	learning design and educational technology

Research, publications, and methods

CURRENT DOCTORAL RESEARCH

Investigating how established multimedia learning principles should be reconsidered for mobile-first learning environments in Sub-Saharan Africa, including how learner context, culture, technology access, and responsible AI influence cognitive load, engagement, and instructional decisions.

SELECTED PROGRAMME

Usability Testing for Learner-Centred EdTech

PROFESSIONAL DEVELOPMENT PROGRAMME

Designed a programme introducing educators and EdTech practitioners to think-aloud protocols, participant recruitment, accessibility, qualitative analysis, and the responsible use of AI in usability research.

PUBLICATIONS

Cautious Innovators

JOURNAL MANUSCRIPT | IN PREPARATION

Nzayinambaho, E. Cautious Innovators: How African EdTech Professionals Make Sense of Generative AI Across a Three-Course Upskilling Series.

A Multifactor Authentication Security Model for Mobile Banking Transactions

ACCEPTED BY GLOBAL SCIENTIFIC JOURNAL | NOVEMBER 2024

Nzayinambaho, E. The Case of a Mobile Banking System (AB Bank Rwanda). Accepted publication.

A Multifactor Authentication Security Model for Mobile Banking Transactions

MASTER'S THESIS | BUGEMA UNIVERSITY | 2021

A usability-conscious multifactor authentication framework for mobile banking transactions in resource-constrained environments.

RESEARCH INTERESTS

Human-Computer Interaction | Learning Sciences | Artificial Intelligence in Education | Human-AI Interaction | Mobile Learning | Accessibility and Inclusive Design | Learning Analytics | Instructional Design | Educational Technology | Multimedia Learning | Learning Motivation

METHODS

Usability testing | Think-aloud studies | Learner interviews | Accessibility evaluations | Heuristic reviews | Learning analytics | Curriculum review | Learning experience prototyping | Qualitative analysis | Instructional design