

ENOCH AKLI

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EDUCATION

Virginia Tech, Blacksburg, VA, USA

Doctor of Philosophy (PhD) in Computer Science
Focus: Human-Computer Interaction

Expected: December 2028

Virginia Tech, Blacksburg, VA, USA

Master of Engineering in Human Factors Engineering & Ergonomics
Graduate Certificate in Human-Computer Interaction

December 2024

Relevant Coursework: Human Factors Research Design; Usability Engineering; Risk & Hazard Control; Human Factors System Design; Statistical Learning & Data Science; Database Management Systems; Machine Learning (in progress).

RESEARCH EXPERIENCE

Natural-Language Query Interface for NoSQL (NL — MongoDB)

August 2025 — December 2025

- Designed a natural-language interface that converts user questions into executable MongoDB (NoSQL) queries, reducing the query-writing burden for non-technical users.
- Implemented a query preview and results table interaction to improve transparency and support user understanding and recovery from incorrect prompts.
- Built an end-to-end workflow (authentication — data upload — prompt construction — query execution — results visualization) to support reliable end-to-end use.

User Experience Research for Audio-Based Social Media

March 2023 — November 2023

- Designed and evaluated an audio-based social media platform, conducting experimental studies across visual, audio, and hybrid interaction modalities.
- Performed task analysis to map user engagement and identify behavioral patterns throughout experimental phases.
- Analyzed results to uncover significant usability differences, providing actionable insights to enhance user experience.

Human-Centered Design for Geocaching Applications

March 2024 — May 2024

- Designed and integrated a virtual caching buddy feature to improve remote and social interactions within the Geocaching app.
- Applied an iterative human-computer interaction (HCI) design framework, conducting six design iterations to optimize usability and engagement.
- Created high-fidelity prototypes using Figma, incorporating feedback from usability testing to refine user interfaces.

Enhancing Collaborative Music-Sharing Platforms

March 2023 — November 2023

- Conducted qualitative research on user behavior and engagement with embedded music-sharing tools (Uzox bot) in messaging platforms, identifying key patterns and needs.
- Designed and distributed survey instruments using QuestionPro, gathering actionable insights to guide product improvements.
- Utilized human factors principles to address usability challenges, improving the intuitiveness and engagement of collaborative platforms.

PUBLICATIONS

Interpretive Caption: Real-Time Vocal Emotion Cues for DHH Users

ASSETS '25 (Poster), Oct 2025

- Sunday David Ubur, Sikiru Adewale, Nikitha Donekel Chandrashekhar, **Enoch Katey Akli**, Denis Gracanin.
Proceedings of the 27th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '25). doi:10.1145/3663547.375966
- Contribution:** Led user-study sessions; coded and synthesized interview data in NVivo using Braun & Clarke's reflexive thematic analysis to generate themes and actionable design recommendations.

Speaker-Aware Affective Captioning for Multi-Speaker STEM Talk in Inclusive Classrooms

(Under Review), Jan 2026

Submitted to CHI '26 Posters

- Sunday David Ubur, Denis Gracanin, Stephanie P. DelHart, **Enoch Katey Akli**, Fatemeh Sarsharatehrani, Sikiru Adewale.
Submission ID: 6839
- Contribution:** Led user studies; collected post-task usability and comprehension measures after interface interaction; supported statistical analysis and interpretation of results.

WORK EXPERIENCE

Center for Engineering Excellence and Discovery (CEED) August 2022 — Present
InVents Studio Engineering Lab Manager — Blacksburg, VA

- Led safety and equipment training for 600+ students, standardizing protocols to support safe, reliable makerspace operations (Human Factors education/training).
- Conducted needs assessment and workflow analysis using task analysis and heuristic evaluation to identify system issues and improve accessibility.
- Synthesized findings into actionable recommendations to reduce cognitive load and improve first-time user experiences, with emphasis on underrepresented groups in STEM.

Africa World Airlines Ltd. June 2019 — July 2022
Human Factors & Safety Coordinator — Accra, Ghana

- Led human factors analyses of operational workflows to identify risks, contributing to user-centered safety procedures and system improvements.
- Applied usability engineering and ergonomics to improve crew interaction with safety systems, reducing operational friction and supporting error prevention.
- Collaborated with cross-functional stakeholders to evaluate human–system performance and communicate recommendations for safety-critical systems.
- Conducted human reliability assessment (HRA), workload analysis, and situation awareness evaluations to support pilot and cabin crew decision-making.

Africa World Airlines Ltd. March 2019 — July 2022
Human Factors & Safety Crew — Accra, Ghana

- Conducted human error analyses and supported risk mitigation efforts to improve safety and reduce performance errors.
- Evaluated crew resource management (CRM) practices using observational and survey-based data collection to improve coordination and emergency response readiness.
- Supported in-flight cognitive workload assessments and documented findings to inform operational improvements and communication practices.

SKILLS

Human Factors & Safety: Risk Analysis, Workload Analysis (NASA-TLX), System Safety Analysis, Human Error & Risk Mitigation, Workflow Analysis, Task Analysis, Cognitive Task Analysis (CTA), Heuristic Evaluation, Human-Computer Interaction, Systems Evaluation.

Research Methods: Needs Assessment, Moderated Usability Testing (task-based), User Interviews, Survey Design, Contextual Inquiry, Think-Aloud Protocols, Diary Studies, Study Protocol Development, Data Collection, Synthesis & Reporting, Stakeholder Communication & Facilitation.

Qualitative & Quantitative Analysis: Reflexive Thematic Analysis (Braun & Clarke), Qualitative Coding & Theme Development, Affinity Mapping/Synthesis, Descriptive Statistics, Statistical Testing & Interpretation (e.g., t-tests/ANOVA), Data Visualization.

Tools & Productivity: NVivo, JMP, Python (pandas) for data analysis, QuestionPro, Figma, Presentation Development, Report Writing.

LEADERSHIP EXPERIENCE

- **Graduate Coordinator, CEED RISE Program** Feb 2023 — Apr 2023
Coordinated program operations and stakeholder communication for recruitment activities; supported event logistics and participant engagement.
- **Graduate Coordinator, VT Innovation Campus Robotics Program** Jan 2023 — Mar 2023
Organized robotics workshops and communications; supported program delivery and documentation.

TRAINING & CERTIFICATIONS

Basic Responsible Conduct of Research — CITI Program

September 2022