Hamza Kyamanywa

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RESEARCH INTERESTS

Large Language Models (LLM) Security, Responsible AI, Resource Efficient ML

EDUCATION

Korea University **Seoul, South Korea**
B.S. in Electrical and Electronics Engineering March 2019 – February 2023
GPA - 4.02 / 4.5 (*magna cum laude*)

Sunmoon University **Cheonan, South Korea**
Korean Language Course February 2018 – February 2019

Makerere University **Kampala, Uganda**
B.S. in Electrical and Electronics Engineering August 2017 – February 2018
GPA - 4.3/ 5.0 (*One Semester Attended)*

PUBLICATIONS

[In peer review]
Sudi Murindanyi, Ggliwango Marvin, Kyamanywa Hamza, et al. (2023). Interpretable Multi-Label Music Genre Classification Using Mel Spectrograms And CNNs. 4th ICDSA 2023 in Springer Nature Computer Science Journal.

[Working papers]
Kyamanywa Hamza, Seung-Won Jung & Sudi Murindanyi. (2023) "Distilled Model Soups: Applying model soups as a method to improve robustness and accuracy of small models obtained from knowledge distillation without increasing inference time" – draft.

PROFESSIONAL EXPERIENCE

Bebridge Inc. **Seoul, South Korea**
Fullstack Software Engineer July 2022 – Present
- Developed RESTful backend APIs using Python Flask and Django.
- Created Single Page Applications (SPAs) using React, Next.js, HTML, and CSS.
- Engineered desktop applications using Electron JS, ReactJs, and NodeJS
- Led the research and development of an AI-based real-time video transcription feature, boosting purchase conversions by 19% and elevating premium subscriptions by 50%.
- Built a cloud-based LLM video summarization engine, garnering 1,500 MAU with a 25% weekly retention rate and daily summarization of 1,000+ videos within the inaugural 3 months.
- Actively contributed to open-source projects such as EditorJS, Langchain, and Pytube earning a considerable GitHub following.
- Distinguished myself on Stack Overflow by answering coding questions and achieving a standout rating surpassing 427
- Optimized the performance of the user-facing website to achieve 57% faster loading time using lazy loading and browser-optimized content types.
- Implemented a highly requested universal export feature for Bebridge's note-taking product (*Slid*) with 96% accuracy in format conversion which reduced support inquiries regarding copy-and-paste by 75%.

RESEARCH EXPERIENCE

Neural Securify AI Technology **Kampala, Uganda (remote)**
Independent Researcher, mentored by Prof. Ggaliwango Marvin Ph.D October 2023 – Present
Research focus: Responsible AI, Music Genre and Audio Classification

Deep Image processing lab - Korea university **Seoul, South Korea**
Student Researcher, under Prof. Seung-Won Jung Ph.D December 2022 – Present
Research focus: Resource-constrained model development and Efficient ML.

AWARDS AND HONORS

- Bebridge-Slid Hero Award December 2022
- Korea University Academic Excellence Award July 2020
- Korea University Dean's List (3 semesters) July 2020, Jan 2020, July 2019
- Global Korea Scholarship Award February 2018
- Ugandan Government Scholarship Award August 2017

OPEN-SOURCE CONTRIBUTIONS

- Contributor to Langchain - a framework for developing applications powered by language models (69.9 K stars).
- Contributor to Editor.JS - an open-source text editor that outputs clean JSON (25.1 K stars).
- Contributor to MDN web docs - an open-source, collaborative project that documents web platform technologies (8.3 K stars).
- Contributor to pytube - a dependency-free Python library (and command-line utility) for downloading YouTube videos. (9.6 K stars).

SKILLS & INTERESTS

Computer Skills: Python, SQL, JavaScript/Typescript, MATLAB, Docker, AWS, Git, React Js & Next Js, Node Js, LLMs Pytorch, Huggingface Transformers, Django, Google Cloud Platform (GCP)

Languages: Korean *(Fluent)*, Luganda *(Native language spoken in Uganda),* English *(TOEFL Score: 111, IELTS Score: 7.5)*

Interests: Cross-cultural exploration, Technological Innovation, Global Education, Community Empowerment, Digital Solutions, Multicultural Music & Art, Leadership & Mentorship, Problem-solving

SERVICES & LEADERSHIP

Jenga CodeLabs   **Seoul, South Korea**
Founder & President   December 2022 – Present
Founded Jenga CodeLabs to equip foreign university students in Korea with coding skills, capitalizing on the tech sector's diversity, and offering enhanced part-time opportunities and career prospects.

GKS Scholars - Sunmoon University   **Cheonan, South Korea**
Class President   February 2018 – February 2019
Held the position of Class President for the 2018 Global Korea Scholarship recipients at Sunmoon University Language School.

College of Engineering- Makerere University   **Kampala, Uganda**
Class President   August 2017 – January 2018
Led as the Unified Class President representing the Electrical, Telecommunications, and Computer Engineering departments in my inaugural year at Makerere University.

REFERENCES

Prof. Beelee Chua Ph.D. Korea University   **Park Junghyun** CEO Bebridge Inc.
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