Felix Hirwa Nshuti

Machine Learning Engineer

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SUMMARY

I work on Computer Architecture, System Programming, Programming Languages and Compilers, and Machine Learning. I am an open-source contributor and maintainer who likes community interaction. I enjoy learning new things and exchanging knowledge with others.

EDUCATION

Pandit Deendayal Energy University   Gujarat, India
Bachelor of Technology in Computer Engineering   *October 2021 – June 2025*

PROJECTS

Scaling Deep learning backends with sktime   May 2024 – Aug 2024
Machine Learning with time Series   *Python, PyTorch, TensorFlow, Darts, CI/CD*
- • Project Link
- • Added new classification models to sktime using PyTorch (GRU and GRU-FCNN Classifiers)
- • Efficiently migrated the classifier models from legacy sktime-dl to sktime main repository
- • implemented the modular interface of darts regression models in sktime.

Extracting LLVM IR and CFG from C/C++ and Python Programs   October 2024
Structural Code Representation understanding   *Programming Languages, LLVM, IR, CFG, AST*
- • Project Link
- • Leveraging the powerful LLVM IR managed to extract and analyse the Control Flow Graphs of different code snippets.

EXPERIENCE

Contributor   May 2024 – Aug 2024
Google Summer of Code, sktime   *Remote, Remote*
- • Contributed to sktime a unified ML library for Time Series(Under Google Summer of Code)
- • Scaled Deep Learning backends with sktime, mostly worked with Darts and PyTorch
- • Implemented an adapter for darts regression models in sktime.
- • Presented my project progress at weekly mentorship meetings
- • Helped in the community engagement through sprints, discord chats and weekly community events presentations.

Machine Learning Engineer   June 2023 – October 2023
Unify   *London, United Kingdom*
- • Contributed to the maintenance and development of Ivy, a unified Deep Learning framework, enhancing its functionality and performance.
- • Established a framework for monitoring adherence to Array API standards, identifying key areas for improvement, and engaging with developers in continuous feedback loops to enhance compliance.
- • Along with the team, I participated in the weekly paper reading group through presentations.
- • Contributed to developing and maintaining the Numpy frontend as a team lead.
- • Worked closely with community through discussions, github issues and pull request reviews on open-source projects.

Machine Learning Engineer Intern   September 2022 – June 2023
Unify   *London, United Kingdom*
- • Contributed to the maintenance and development of Ivy, a unified Deep Learning framework, enhancing its functionality and performance.

- Contributed to the research and addition of new features features to Ivy.
- Worked closely with community through discusions, github issues and pull request reviews on open-source projects
- Consistently worked close with my mentor by working on feedback provided.

Volunteeting Developer   July 2022 – September 2022
Unify   *London, United Kingdom*
  - Contributed to Ivy a Unified Deep Learning Library.
  - As a mentee, I worked closely with my mentor and attended community events.

Apprentice Software Developer   April 2021 – May 2021
Rohde & Schwarz   *Kigali, Rwanda*
  - Developed Cybersecurity test software by using some automation libraries of Python like Selenium.
  - Facilitated the team to deliver quality software over time.
  - Presented the final product to the customer and delivered the product to production.

VOLUNTEERING

Community Council Member   Oct 2024 – Present
Sktime   *Remote, Remote*
  - Facilitating the decision making and conflict resolution.
  - Through mentorship program, I help contributors to get started with open-source and provide continous constructive feedback.
  - Collaborating with external organizations and looking for funds to drive the open-source ecosystem.
  - Working closely with community through discussions, github issues and pull request reviews on open-source projects.

Core Developer   Sep 2024 – Present
Sktime   *Remote, Remote*
  - Helping with the maintenance and addition of new features to sktime, pytorch-forecasting, and other related projects.
  - Facilitating the team through research and new algorithms implementation.

Mentor   August 2021 – April 2023
DeepLearning.AI   *California, United States*
  - Assisted Learners taking the TensorFlow Developer Professional Certificate on Coursera.

Mentor   September 2021 – October 2021
AI Planet   *Remote, Remote*
  - Facilitated learners who were taking the Data Science Mini Bootcamp Series from AI Planet(formerly DPhi).
  - Created learning assignments for the Python course.
  - Helped the team to give feedback to learners.

Co-Mentor   April 2023 – August 2023
Google Summer of code   *Remote, Remote*
  - Co-assisted the mentorship of 2023 GSOC contributors working on ivy (https://github.com/ivy-llc/ivy).

SKILLS

Programming Languages: Python, C/C++, ARM Assembly, CUDA, Java

Deep Learning Frameworks: PyTorch, Jax, TensorFlow, Paddle, Ivy

Libraries & Tools: NumPy, Pandas, Scikit-learn, OpenCV, NLTK, Git/GitHub, Docker

Natural Languages: English (fluent), Kinyarwanda (Proficient)