

Kobby Panford-Quainoo

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TECHNICAL SKILLS

Languages : Python, C++

Deep Learning Libraries : PyTorch, Tensorflow, Jax

Software & OS : LaTeX, Windows, Unix, Arduino IDE

Cloud Computing: Google Cloud Platform, AWS

EXPERIENCE & PROJECTS

InstaDeep Ltd : Research Engineer, ML

Jan 2023 - present

- Working with a team to optimize and scale [Deepchain](#) platform with modern tools and technologies.
- Developed and maintain an easy to deploy [data annotation tool](#) for [SKAI](#)
- Led the open-sourcing and scaling efforts of Google's [SKAI](#) to GCP, optimizing performance by leveraging GPUs and TPUs for accelerated machine learning workloads and seamless cloud infrastructure integration.
- Contributed to AI for Social Good initiatives, including the development and enhancement of InstaDeep's [early warning system for desert locusts](#), utilizing machine learning to provide proactive solutions for agriculture sustainability

African Masters of Machine Intelligence (AMMI) : Tutor *Feb 2020 - Sep 2023*

- I taught foundational courses such as Mathematics, Programming and Foundations of Machine Learning and Deep Learning.
- Assisted professors teach more advanced courses like Kernel Methods, Computer Vision, Reinforcement Learning

Neuromatch Academy : Teaching Assistant [certificate](#)

July 2022

- I tutored students in the annual virtual Deep Learning School, Neuromatch Academy. I also assisted the groups of participating students complete their final projects.

University of Toronto & Vector Institute:

Visiting student & Research Intern

Sep 2019 - Jan 2020

- Advised by **Marzyeh Ghassemi** (ML for Healthcare group)
- Built causal graphs from Medical literature (eg. PubMed) and Electronic Health Records and pruned causal edges with a language model that understands causal relationships from medical text

KNUST : Teaching and Research Assistant

Sep 2017 - Aug 2018

- I assisted professor teach the courses, Programming with C++ (I&II) and Introductory Electronics

Bilateral Trade modelling with Graph Neural Networks

Advisors: **Michael Defferrard, Joey Bose**

Created a new framework that uses graph neural networks to predict the income level of countries and potential trade partners up to 68% and 98% accuracy respectively. *Master's project, AMMI-2020* [\[paper\]](#) [\[code\]](#)

Drug Discovery with Generative models

Built and trained Adversarial and Variational Autoencoders for both representation learning and generation of discrete-structured molecular data particularly the SMILES dataset for drug repurposing. [\[code\]](#)

Calibration of Ensemble Models

Investigated how calibrated deep ensemble models are compared to non-ensemble deep neural network models. [\[code\]](#)

EDUCATION	African Institute for Mathematical Sciences - African Masters of Machine Intelligence (AMMI) <i>MSc. Mathematical Sciences (Machine Intelligence)</i>	<i>Sep 2018 - Sep 2019</i>
	Kwame Nkrumah University of Science and Technology (KNUST) <i>BSc. Physics (Major: Electronics)</i>	<i>Aug 2013 - Jul 2017</i>
TALKS, POSTERS & SEMINARS	• Talk + Tutorial: Deep Generative Models for Molecule Generation - <i>International Workshop on Machine Learning for Drug Discovery workshop; Basic-Advanced, India</i> [video] [tutorial]	<i>May 2021</i>
	• Poster Presentation: Bilateral Trade modeling with Graph Neural Networks - <i>PML4DC, ICLR 2020</i>	<i>Apr 2020</i>
	• Poster Presentation: Spatio-temporal modelling of Malarial dataset - <i>Vector Institute's Geoffrey Hinton Deep Learning Symposium, Toronto</i>	<i>Oct 2020</i>
	• Invited talk: Challenges in Healthcare representation learning - <i>Google AI, Toronto</i>	<i>Dec 2019</i>
	• Seminar: Non-Linear Dimensionality Reduction with ISOMAP - <i>AMMI, Rwanda</i>	<i>Nov 2018</i>
	• Presentation: The Coliform removal efficiency of selected water - filters on the Ghanaian Market <i>Universität Paderborn, Germany</i>	<i>Jun 2016</i>
ACADEMIC ACHIEVEMENTS	• <i>Vector Institute</i> Pan-Canadian Self-organising Conference Travel Award	<i>Oct 2019</i>
	• <i>DeepMind</i> Conference Travel Award - Deep Learning Indaba	<i>2019 & 2022</i>
	• Most (Technical) Supportive student - AMMI (Certificate of Excellence)	<i>Dec 2019</i>
	• <i>Google-Facebook</i> Scholarship (full) - AMMI, acceptance rate - 6%	<i>2018 - 2020</i>
	• <i>DAAD</i> Student Travel Award and Research Grant (Germany)	<i>Jun 2016</i>
MENTORING & VOLUNTEERING	• Mentoring and Advising masters students' projects, AMMI	
	• Neuromatch Academy (2020)	
	• Volunteering , <i>ICML</i> (2020), <i>ICLR</i> (2020) Virtual	
	• Volunteering, Vector Institute's <i>Geoffrey Hinton Deep Learning Symposium</i> ,	<i>Oct 2019</i>
	• Tutoring, Introduction to Machine Learning, <i>Deep Learning IndabaX-Rwanda</i> ,	<i>Apr 2019</i>
ML CONFERENCES & SUMMER SCHOOLS	• ANITI <i>Reinforcement Learning Virtual School</i> , 2021, France	<i>May 2021</i>
	• CIFAR <i>Deep Learning Reinforcement Learning Summer School</i> 2020, Montreal	<i>Aug 2020</i>
	• <i>ICML</i> (2020), <i>ICLR</i> (2020), <i>NeurIPS</i> (2019, Vancouver)	<i>2019/2020</i>
	• <i>Deep Learning Indaba</i> 2019 (Kenya), 2022 (Tunisia)	<i>August 2019</i>