Claren Clarkson Ochieng Ogira

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Education

University of Pennsylvania **Aug. 2023 – May 2027**
Bachelor of Science in Engineering in Computer Engineering *Philadelphia, PA*

Relevant Coursework

- Computer Systems
- Artificial Intelligence
- Tiny Machine Learning
- Discrete Mathematics
- Programming in Java
- Automata Theory
- Linear Algebra
- Data Structures & Algorithms

Technical Skills

Languages: Python, C, C++, Java, JavaScript, HTML, CSS, OCaml, SQL, Bash
Developer Tools: Git, CUDA, GPUs, Visual Studio Code, Docker, Azure, Node, Linux, Conda, React
Skills: Full Stack Development , Machine Learning, GPU Programming, Cloud Computing, Scalable Systems

Experience

University of Pennsylvania - Electrical & Systems Engineering Department **August 2024 – Present**
Teaching Assistant for Artificial Intelligence Lab *Philadelphia, PA*

- Facilitate students' deep understanding of advanced machine learning concepts and applications.
- Reviewing project assignments, walking through lab tutorials, coordinating with faculty on course improvements.
- Reported 30% improvement in assignment scores and an observed increase in collaboration.

University of Pennsylvania - Alelab **May 2024 – August 2024**
Research Assistant *Philadelphia, PA*

- Investigate constrained learning algorithms to improve quantized machine learning model accuracy.
- Organized the codebase, debugged and fixed version conflicts, updated code and ran experiments on a GPU.
- Decreased slack length by 51% in ResNet20q resulting in up to 3% increase in accuracy for low-bit-width quantization using PyTorch.

University of Pennsylvania - Fife Academy **February 2024 – May 2024**
Python Coding Instructor *Philadelphia, PA*

- Designed and delivered an engaging curriculum tailored to middle school students; collaborated with fellow instructors to continuously improve content and teaching methods.
- Achieved a 50% increase in student participation, significantly boosting engagement and interest in coding.

Projects

Clinical AI for Malaria Diagnosis | *Python, Tensorflow, Pytorch, Scikit-learn*

- Trained a Faster-RCNN model using PyTorch to detect and annotate plasmodium parasites in blood samples to increase diagnostic accuracy and efficiency by 200% while lowering costs.
- Utilized Scikit-learn to build a vector database supporting doctors' decisions on prescriptions and diagnosis.

TranslateMe | *Typescript, Node.js, Twilio API*

- Utilized NodeJS to integrate Twilio's backend with Google Translate API, developing an auto-translating messaging app to ensure real-time message translation for up to 5 languages.

Computer Vision for Covid-19 Detection | *Python, InceptionV3*

- Collaborated in a team of 50 to develop a transfer learning model using InceptionV3 that achieved 94% accuracy in diagnosing COVID-19 from radiology data.

Leadership/Achievements

National Society for Black Engineers | *Senator* **August 2023 – Present**

- Led the organization of weekly meetings, providing academic, professional development, and networking support to over 50 chapter members, fostering a collaborative and inclusive environment.

AWS DeepRacer Student League **May 2023 – Present**

- Rank 1 out of 3121 in EMEA '23 seasonal standings. Currently rank 1 in North America and 22 globally in 2024.

Jane Street Mystery Planet **February 2024**

- Clinched first place by working with peers in solving multiple rounds of challenging puzzles and a trading simulation.