

# Christopher Dare

CMU '21 grad with experience building consumer and enterprise products as an analyst and engineer. Great writer and communicator. Built an ML fraud detection system for Rwanda's Revenue Authority. Seeking to join a passionate engineering team on a mission to build quality and data-driven products loved by users.

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## EXPERIENCE

### Clearspace Labs, Accra (Ghana) — Software engineer / Senior product development manager (acting)

MARCH 2021 - PRESENT

Leading the redesign and upgrade operations for [Serenity Health's](#) patient, corporate and healthcare provider apps (UI and APIs) based on FHIR v4

- Designed and led development and testing of feature updates to Serenity's apps for +130K users: onboarding, COVID-19 testing and payments, virtual care, error detection, user administration, role based access management, patient encounters...
- Built a python client for managing tickets on Zoho Desk
- Writing a microapp to migrate data from legacy systems to new app versions

### Carnegie Mellon University, Remote — Graduate Student Researcher

OCTOBER 2020 - JANUARY 2021

Collaborated with [Prof. Rita Singh](#) and 3 coursemates from my [deep learning course](#) to generate and evaluate the world's first set of limericks generated by artificial intelligence.

Our results were featured on CMU's website from Feb 15 - 20. Generated poems available at <https://www.amazon.com/dp/B08TV36KF7>. Project video available [here](#)

- Developed a metric for scoring and improving poems based on rhyming
- Others: Built an autograd deep learning toolkit akin to [PyTorch](#) as part of course work. Implemented MLPs, CNNs, and RNNs. Toolkit available on [request](#)

### Rwanda Revenue Authority, Kigali (Rwanda) — Data Scientist (intern)

MAY 2020 - AUGUST 2020

ML for fraud detection in international trade: Prototyped an ML scoring system as a replacement for a rule-based selectivity model for identifying fraudulent consignments

**Objectives:** Facilitating trade and increasing revenue gains

**Model performance:** 90% precision, 95% recall

**My contributions:**

- Conducted exploratory data analysis with the team and identified useful features
- Co-wrote functions for ETL and model fitting with pipelines
- Created a cli to train, review and save ML model updates + evaluation reports
- Created an ML REST API to determine the appropriate classification channel for a given declared consignment in compliance with WTO standards. Demonstrated ease of integration to the RRA's existing applications via a streamlit app demo
- **Other notes:**

## SKILLS

- [Data science](#)
- [Machine learning](#)
- [API development](#)
- [Writing](#)
- ETL
- Software design
- Customer & market discovery
- Object oriented programming
- Listening and user empathy
- Speaking & presentation

## TECH TOOLKIT

- **Data science**  
Numpy, pandas, scikit-learn, joblib, typer, pytorch, tensorflow, spacy, nltk...
- **Web and API development**  
Djangorest, FastAPI, Postman
- **Programming**  
Python (expert)  
SQL (intermediate)  
C++ (familiar)
- **Presentation / UX**  
Google slides (expert)  
Adobe XD (familiar)
- **Project, Devops, Cloud**  
Docker  
Git: Gitlab, Github  
Digital Ocean, AWS

Significant packages used: [pandas](#), [sklearn](#), [fastapi](#), [streamlit](#), [poetry](#), [joblib](#), [typer](#),  
rra-data (custom database package)  
TDD, Gitlab, software architecting with UML & C4

## **Inflexion Capital, Accra (Ghana) — Technology Analyst**

JULY 2017 - MAY 2019

Contributed to the success of a series of projects in partnership with [IC Asset Managers](#) and [IC Securities](#) on internal projects and [MTN Ghana's IPO](#):

- Saved the firm \$24K+ in hiring costs by automating financial statement imports, trade settlements, and quarterly reporting to fiduciaries
- Co-wrote a corporate investment portal to abstract operational procedures from fund managers
- Designed and managed the development of a [trustee portal](#) to provide secure information search and retrieval for fund trustees
- Devised solution architecture for a retail investment fund product with management. Projected to allow the firm to manage over \$100mn more in assets
- Performed user testing on software updates during MTN Ghana IPO share offer
- Analyzed and automated processing and synchronization of text and image data from 90,000+ IPO subscribers
- Wrote SLA technical, policy documentation for the IPO underwriter (IC Securities)
- Ran and completed financial reconciliations for all IPO USSD subscriptions
- Delivered a presentation to a corporate client on 2017 Q3 fund performance and 2017 Q4 outlook

## **EDUCATION**

### **Carnegie Mellon University Africa, Rwanda — Ms. Information Technology (CIT scholar, applied machine learning major)**

JULY 2019 - JUNE 2021

Worked 2 jobs whilst completing my full time degree on a partial scholarship

Moderator: Facilitated a series of guest lectures on AI/ML with experts from Netflix and Microsoft

### **Valley View University, Ghana — Bsc. Computer Science**

SEPTEMBER 2013 - JULY 2017

President and Senator, Computing Science Students' Association (2016-2017)

Admitted to the [SEO Africa](#) internship program at Inflexion Capital

## **PUBLIC PROJECTS**

**Serenity** — [Easy access to world-class healthcare from anywhere](#)

**AiBBA** — [Evaluating and improving poetry generation by GPT-2](#)

**Firelord** — [A tutorial for creating machine learning apps from scratch](#)

**Novi** — [Messaging for family and people of close relation \(alpha release\)](#)

## **COURSES**

- Strategic use of digital information in enterprises
- Privacy, policy, law and technology
- Data structures and algorithms
- Artificial neural networks
- Deep learning
- Speech signal processing
- Natural language processing
- Research methods
- Intro to HCI
- Information security

## **VOLUNTEER WORK**

### **- Moderator**

[Fireside chat with H.E Paul Kagame](#), President of Rwanda

### **- Facilitator**, rural

outreaches to support 200+ children in Ghana

### **- Software engineer**, [Novi](#)

## **AWARDS AND PROGRAMS**

### **- Best behaved student**

(Valley View University)

### **- Secure and Private AI**

**Scholar**, Udacity

**- SEO Africa** internship program

## **LANGUAGES**

- **English** (Advanced)
- **Akan** (Basic)
- **French** (Basic reading proficiency)