Courage Ekoh

MACHINE LEARNING RESEARCHER • DATA SCIENTIST

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Synopsis

Data Science professional with experience working in the energy industry and fintech. Possess the unique ability to utilize data insight for business cases to mitigate risk and improve business output. Proficient in various programming languages as well as building ML models from scratch and with existing libraries. Comfortable with statistical and data analysis, mathematics, research, and some aspects of financial modelling.

Education

Carnegie Mellon University   *Aug 2020 – Dec 2021*
MS, INFORMATION TECHNOLOGY
- Concentration: Applied Machine Learning
- CQPA: 3.68/4.0

University of Ibadan   *Jun 2014 - May 2019*
BSc, INDUSTRIAL AND PRODUCTION ENGINEERING
- Class Rank: 5/34
- CGPA: 5.7/7.0

Professional Experience

Carnegie Mellon University   *Jan 2022 – Present*
GRADUATE TEACHING ASSISTANT (Part-Time)
TA for the graduate level course 18-661 Introduction to Machine Learning for Engineers
- Conduct recitations to help over 100 students grasp some of the difficult concepts taught in class with example problems (both theoretical and coding solutions)
- Hold office hours to respond to students' questions with regards to the assignments or concepts taught in class
- Grading and providing feedback to students on assignments, quizzes, and projects
- Prepare homework problems

Koa Technology, Nairobi, Kenya (Fintech Start-up)   *Sep 2021 – Jan 2022*
DATA SCIENTIST
- Work with the operations team to provide insight from the data produced by all departments and foster growth in the company
- Maintain and update back-end queries to constantly meet business needs in terms of the data pulled out
- Created over 90% of the data engineering processes as well as the various reporting and visualizations used by the various departments in the daily running of the company

TFE Energy, Cape-Town South Africa   *Sep 2021 – Dec 2021*
MACHINE LEARNING CONSUTANT
- Utilized Machine learning to build a yield prediction algorithm for mini-grid connections in rural Africa
- Evaluated the possibility of data-backed refinancing for mini-grid connections by combining clustering, and classification algorithms
- Worked extensively with geospatial data to understand how development affects electricity access and consumption in rural villages.

Koa Technology, Nairobi, Kenya (Fintech Start-up)   *May 2021 – Sep 2021*
BI DEVELOPER & DATA ANALYST (Internship)
- Conducted statistical and data analysis with captured data and provide business intelligence to aid decision processes for the Operations, Marketing and Tech departments.
- Achieved 2,650% increase in active savers within 3-months from launch by pioneering data-driven initiatives on customer acquisition and retention.
- Built tools from ground-up that provided 100% visibility into KPIs across the entire company

Schlumberger Oilfield Services, Port-Harcourt, Nigeria   *Aug 2017 – Feb 2018*
WELL SERVICES MAINTENANCE ENGINEER (Internship)
- Deployed GPS trackers and Maintenance Information Systems on over 200 oilfield assets (covering about 60% of the project, within a month) for better asset and maintenance management as part of the Global Traceability Project
- Maintained and certified pressure control equipment such as treating lines and valves to provide up to 99.99% availability on the field
- Conducted routine maintenance on oilfield equipment, i.e., pumps, engines, mixers, etc. that ensured downtime was near 0 hours.

Recent Project

Extreme Multi-Domain, Multi-Task Learning With Unified Text-to-Text Transfer Transformers   *Sep 2021 – Dec 2021*
- Built an AI agent that performs multi-domain task with a single model. Our model does code generation from docstring, code summarization, chess move prediction, and chess game evaluation.
- Supervisor: Prof. Bhiksha Raj and Prof. Rita Singh

Other Projects

- Face Recognition and Face detection with Convolution Neural Networks (ResNet-34)
- Speech Recognition with Recurrent Neural Networks (LSTMs)
- Detection of Malicious URLs using K-Nearest Neighbour Classifier

Skills

Machine Learning	Sci-Kit Learn, Ensembles (Random Forest, XGBoost), ANN, CNN, RNN, Classification (Decision Tree, KNN, Logistic Regression, SVM), Clustering (k-means, k-means++, GMM), Pytorch, hugging-faceLinear Algebra, Statistics, Calculus
Data Science	NumPy, Pandas, Matplotlib, Tableau, Metabase, SQL, A/B Testing, StatsModel, SciPy, MS EXCEL, Google Data Studio
Programming/Frameworks	Python (Intermediate), Java (Intermediate), LINUX (Beginner), C/C++ (Beginner), AWS
Software	AutoCAD, Inventor, MS Office Suite, SAP, Salesforce, Unity
Coursework	Applied Stochastic Processes, Mathematics for Machine Learning, Data Inference and Applied Machine Learning, Introduction to Machine Learning for Engineers, Augmented and Virtual Reality, Data Structures and Algorithm, Introduction to Information Security, Introduction to Deep Learning

Other Courses

Deep Learning Specialization (deeplearning.ai on Coursera)   *Present*

Machine Learning for Production Specialization (MLOps) (deeplearning.ai on Coursera)   *Present*

Data Analysis with Python (IBM on Coursera)   *Oct 2019*

Data Foundations (Business Analytics) Nanodegree (Udacity)   *Oct 2018*

Activities

Students' Guild, Carnegie Mellon University Africa   *Feb 2021 – Dec 2021*
PRESIDENT (First International student to attain this position)
- Introduced the peer-mentoring scheme among students where students can get help from other students on programming and maths skills through weekly organized tutorials. More than 60 students benefit from this scheme on a Week-on-week basis
- Negotiated the set-up of a trust-fund for students having financial challenges, with the Carnegie Mellon University Africa Alumni Association
- Managed other ministers and coordinated the smooth running of students' activities
- Represented students in all organs of the university administration

Toastmasters International   *Feb 2021 – Dec 2021*
MEMBER, Kigali, Rwanda
- Practised on the presentation mastery path
- Delivered speech fortnightly to improve my public speaking skills

Unilever Nigeria Plc   *Jan 2016 – Dec 2017*
CAMPUS BRAND AMBASSADOR, University of Ibadan
- Championed a massive publicity campaign for Unilever Africa Idea Trophy (UAIT 2016); received commendation for the highest institution entry in the country
- Organized a mentoring session for the University of Ibadan UAIT 2016 teams; A teams from University of Ibadan placed first position in Nigeria
- Took responsibility for all on campus employer (Unilever) branding activities (both online and offline)

Industrial Engineering Students Association, University of Ibadan   *Feb 2016 – Dec 2016*
PUBLIC RELATIONS OFFICER
- Reinstated the press organization of the association
- Pioneered the celebration of members on their special days
- Was in-charge of the association's PR

Awards

- **CIT Dean's Fellowship,** Carnegie Mellon University's College of Engineering   *2020*
- **National Finalist (Nigeria),** Global Management Challenge   *2019*
- **National Merit Scholarship,** Total Exploration and Production Company   *2016*
- **Undergraduate Scholarship,** Agbami Medical and Engineering Professionals   *2016*
- **Undergraduate Scholarship,** Midwestern Oil and Gas Company   *2016*
- **Post-Primary Scholarship,** Shell Production Development Company   *2007*