Elise Nshuti

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EDUCATION AND HONORS

Carnegie Mellon University, College of Engineering.   Africa, Rwanda
Master of Science in Information Technology (MSIT), Concentrating on Applied Machine Learning.   May 2025
- Relevant Coursework: Data Inference and Applied Machine Learning, Programming for Data Analytics, Data Analytics, Big Data and Machine Learning for Earth Observations.
- Cumulative GPA: 3.76/4.0

Mount Kenya University, School of computing and Informatics.   Kigali, Rwanda
Honors Bachelor of Science Information Technology (BSc IT)   May 2022
- Cumulative GPA: 3.3/4.0

Rwanda Polytechnics, Faculty of Engineering.   Western Province, Rwanda
Advanced Diploma in Electrical and Electronics Engineering   April 2017
- Distinction.

SKILLS

- **Programming Languages:** Python, Java, C, C++, HTML, CSS and JavaScript /React
- **Big Data & Machine Learning:** Python (e.g. scikit-learn, NumPy, pandas, matplotlib, seaborn, TensorFlow, OpenCV, Hadoop, Apache Spark)
- **Data Science & Miscellaneous Technologies:** A/B testing, Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation), Statistics, Time Series Analysis, Hypothesis Testing, OOP, APIs, Git, SQL, Power BI and Tableau, Geospatial Analysis, Excel for data analytics, Jupyter Notebook, Google Colab, Visual Studio, and PyCharm, Cloud Platforms (Google Cloud Big Data and ML)
- **Software:** ArcGIS Pro

CERTIFICATIONS

- Programming for Data Science With Python, Udacity Nanodegree [Link]
- IBM Data Analyst Professional Certificate – In progress
- Preparing for Google Cloud Certification: Machine Learning Engineer Professional Certificate

PROJECTS

Open study - data science projects   Carnegie Mellon University Africa
Anomaly-based intrusion detection systems (IDS) - GitHub Link   Fall 2023
- **Objective:** Enhance IDS/IPS systems using CICIDS2017 dataset and advanced EDA techniques, including cross-validation, for improved cybersecurity defense.
- **Methods:** Extracting key features. Employ advanced EDA, including cross-validation, to assess and refine intrusion detection and prevention systems.
- **Results:** Achieved significant system improvements by integrating dataset-informed feature definitions, showcasing enhanced capabilities validated through comprehensive EDA, including cross-validation.

Credit Card Segmentation and Prediction project. - GitHub Link

- **Objective:** Develop a predictive model for credit card user segmentation based on transactional patterns, aiming to understand user behavior and customize financial services.

- **Methods:** Conducted data preparation by processing the dataset for analysis. Subsequently, performed exploratory data analysis (EDA) and selected relevant performance metrics. For model development, applied **unsupervised** clustering and **supervised** modeling techniques to segment credit card users. Implemented learning curve-based debugging to improve model performance and successfully deployed the modal using flask.

- **Results:** Achieved effective credit card user segmentation with the developed model, demonstrating strong clustering and predictive capabilities. Practical implementation in a web application validates the model's real-world utility.

Open study - Software development experience   Carnegie Mellon University Africa
Human Resource Management System (Python) - GitHub Link   Fall 2023
Description: Developed a modular HR Management System prototype using Python to streamline human resource tasks within organizations.
- Developed Python-based HR Management System prototype for streamlined organizational HR tasks.
- Implemented modular classes for different roles, including Director, Employee, Manager, Intern, and HRManager.

- Created features for attendance tracking, working hours calculation, payslip generation, and more.
- Utilized Python for efficient file handling, saving salary records as JSON and generating individual payslip text files.

My Portfolio Website **-** https://nshutielise.github.io/ 2024
    Description: Developed a responsive personal web portfolio using HTML, CSS, and JavaScript.

- Showcased key projects, skills, and technologies for a comprehensive overview.
- Demonstrated proficiency in front-end development.

LEADERSHIP

- Techy Talkers Toastmasters Club member
- CMU Africa Student Guild Member - Sports and Wellness Minister

PROFESSIONAL EXPERIENCE

Tek Experts Rwanda
Technical Support Engineer stage II – Microsoft 365 March 2023 - July 2023
- Applied solution-specific expertise using technical documentation Communicated with end users/system administrators/solution integrators via phone, email, and chat to identify, diagnose, and troubleshoot their needs, as well as set expectations and deliver guidance on resolving the issue.

Skills earned:
- Microsoft 365 products
- Professional Ethics
- Strong verbal, written and interpersonal skills.
- Problem solving, Collaboration and working in a team.
- Learning agility

Rwanda Energy Group Rwanda
Electrical Technician – October 2016 - March 2023
- Worked on tones of new electrification projects in Rwanda.
- Carried out operations and maintenance of electrical power distribution in Western Province (all districts).
- Lead a team of electricians on different rural electrification projects including inspection and commissioning.

Skills earned:
- Critical thinking
- Team Mentality
- Energy related Data collection and analysis
- Attention to details.
- Working well under pressure

REFERENCE: Upon the request