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Profile

Electrical Engineering graduate with a focus on Python development, cloud engineering, and machine learning. Adept at leveraging Python for intricate data analysis, automation, and machine learning applications. Experienced in hands-on roles like transformer assembly and renewable energy projects. Proficient in Python, Selenium,AutoCAD, MATLAB, Git, and cloud tools, I drive efficiency through data-driven insights obtained from technical audits. Positioned at the forefront of innovation in the energy sector, integrating Python, cloud, and machine learning for optimized and scalable solutions.

Education

Bsc. Electrical and Electronics Engineering. 2nd Class Honours University of Nairobi

Competency

- **Python Proficiency:**
  Advanced skills in Python programming language, employed for data analysis, manipulation, and visualization, enhancing the efficiency of energy-related projects.

  Applied Python in automation processes, including PDF data extraction, showcasing the ability to streamline workflows and improve data management practices.

  Utilized Python for scripting and algorithm development in data analysis, modeling, and other technical aspects, contributing to the successful execution of projects.

  My proficiency in Python extends across various aspects of the energy sector, from data analysis and automation to scripting and algorithm development, demonstrating a versatile skill set in leveraging programming for enhanced project outcomes.

- **Data Collection and Fieldwork:** Enhanced expertise in data collection through extensive fieldwork, contributing to the accuracy and depth of data analysis.
- **Data Analysis and Excel**: Skilled in data analysis, manipulation, and visualization using Excel and other data analysis tools.

- **Energy Audit Reviews**: Leveraged data gathered from comprehensive technical audits to perform in-depth energy consumption analysis, identifying patterns and inefficiencies. Generated insightful recommendations for optimizing energy management strategies, promoting cost-effectiveness, and enhancing overall sustainability in alignment with industry standards.
- **Cloud Certifications**:
  Google Cloud Certified Associate Cloud Engineer: Demonstrated expertise in Google Cloud Platform, ensuring proficiency in cloud infrastructure management, deployment, and optimization.

- AWS Machine Learning Foundations Certification: Certified in foundational principles of machine learning on the Amazon Web Services (AWS) platform, showcasing competence in basic machine learning concepts and AWS services related to ML.

- These certifications further validate my commitment to staying abreast of cutting-edge technologies and leveraging cloud solutions for efficient data management and project execution in the field of energy and electrical engineering.
- **Quality Management (ISO QMS):** Certified in ISO Quality Management System (QMS) principles, ensuring high-quality standards in project execution.
- **Automation (PDF extraction):** Proficient in automating processes, including PDF data extraction, to streamline workflow and enhance data management.
- **AutoCAD and MATLAB Proficiency**: Proficient in using AutoCAD for electrical system design and MATLAB for data analysis, modelling, and algorithm development.

- **Transformer Assembly and Maintenance:** Hands-on experience in the meticulous assembly, maintenance, and performance optimization of transformers, ensuring their critical role in electrical systems.
- **Energy Management Policy Review:** Collaborative expertise in reviewing and evaluating energy management policies, providing insights for enhancing energy efficiency and sustainability.
- **Environmental Compliance:** Ensures adherence to environmental compliance standards and regulations in all projects to minimize ecological impact.
- **Energy Regulations and Compliance**: In depth knowledge of energy regulation governing renewable energy projects and electricity distribution, ensuring adherence to industry standards.
- **Technical Audits for Electrical Systems**: Proficient in conducting comprehensive technical audits of electrical distribution systems, identifying inefficiencies, safety concerns, and compliance issues and providing actionable recommendations.

- **Renewable Energy Project Design**: Expertise in designing sustainable and efficient renewable energy projects, including solar and wind systems, to promote environmental responsibility and energy sustainability.

- **Electrical Safety Protocols**: Strong understanding of safety protocols and procedures in electrical engineering to maintain secure and reliable electrical infrastructure.
- **Technical Standards Compliance**: Proficient in ensuring compliance with technical standards, both international and local, to guarantee the quality and reliability of electrical projects.
- **Electrical safety protocols**: Strong understanding of safety protocols and procedures in electrical engineering.

Work Experience

ELECTRICAL ENGINEERING INTERN- ENERGY AND PETROLEUM REGULATORY AUTHORITY

April 2023-October 2023.

Key responsibilities:

- **Energy Audit Reviews**: Energy Audit Reviews with Python Integration:
  - Leveraged Python programming language and its associated tools for efficient data processing and analysis in energy audit reviews.

  - Utilized Python libraries such as pandas and NumPy for data manipulation, enabling the extraction of meaningful insights from extensive datasets obtained during technical audits.

  - Applied Python scripting to automate certain aspects of the energy consumption analysis, enhancing the speed and accuracy of the process.

  - Integrated data visualization libraries, such as Matplotlib and Seaborn, to create clear and informative charts and graphs, aiding in the identification of consumption patterns and inefficiencies.

  - Employed machine learning libraries in Python, when applicable, to develop predictive models that contribute to proactive energy management strategies.

By integrating Python and its diverse tools into the energy audit process, I ensured a comprehensive and technologically advanced approach to analyzing data, deriving insights, and formulating recommendations for optimized energy management aligned with industry standards.

- Automation(PDF extraction): Proficient in automating processes, including PDF data extraction, to streamline workflow and enhance data management.
- Enhanced Expertise in Data Collection Through Extensive Fieldwork: Significantly improving my skills in data collection through active participation in extensive fieldwork activities.

- **Energy Regulations and Compliance:** Ensured strict adherence to renewable energy and electricity distribution regulations,maintaining industry-specific standards.
- **Technical Audits:** Conducted comprehensive technical audits of electrical distribution systems, identifying inefficiencies, safety concerns, and compliance issues, and provided actionable recommendations.
- **Renewable Energy Project Design:** Specialised in designing sustainable and efficient renewable energy projects (solar and wind systems), promoting environmental responsibility and energy sustainability.
- **Technical Standards Compliance:** Proficient in ensuring compliance with international and local technical standards, ensuring the quality and reliability of electrical projects.
- **Energy Management Policy Review:** Collaboratively reviewed and evaluated energy management policies, offering insights to enhance energy efficiency and sustainability.
- **Environmental Compliance:** Ensured strict adherence to environmental compliance standards and regulations in all projects, minimizing ecological impact.

ELECTRICAL ENGINEERING ATTACHEE- COLENCO CONSULTING

June 2021-August 2021

Key Responsibilities
- **Transformer Assembly:** Participated in meticulous transformer assembly, involving vacuuming, heating, and precise filtration of transformer oil, ensuring optimal performance.
- **Safety and Equipment Integrity:** Played a significant role in ensuring the safety and integrity of 66kV electrical equipment through vital earthing tasks.

- **Panel Support Structures:** I was actively involved in the installation of critical panel support structures, enriching my understanding of structural aspects in electrical systems.

- **Practical Knowledge:** Gained invaluable practical knowledge in electrical infrastructure, transformer assembly, safety protocols, and collaborative teamwork, contributing significantly to my professional growth in electrical engineering.
- **Power System Protection:** Gained experience in power system protection, enhancing knowledge of electrical system safety.
- **Single Line Diagrams:** Gained proficiency in representing electrical systems through single-line diagrams.

Personal projects

1. **Whale Optimization Algorithm for Bandwidth Allocation in Telecommunication Network**
- Developed a Whale Optimization algorithm focusing on optimizing bandwidth allocation for telecommunication networks.
- Implemented a Third Order R-L-C circuit excitation method to enhance algorithm performance.
- Conducted a comparative analysis with other state-of-the-art optimization algorithms, demonstrating a 78% superior performance rate.
- Utilized the algorithm to allocate bandwidth efficiently based on users' power demands, ensuring optimal Quality of Service (QoS).

2. AutoML Project

- Executed a comprehensive AutoML project using Streamlit for the user interface (UI) and Pandas Profiler for machine learning automation.
- Designed a web application enabling users to upload datasets and select a target variable for prediction or classification.
- Leveraged Pandas Profiler to generate comprehensive reports on data quality, distributions, correlations, and missing values.
- Automated machine learning model selection and hyper-parameter tuning based on the generated reports.

3. Text-to-Speech Recognition for WhatsApp Voice Notes

- Developed a text-to-speech recognition system that extracts audio from WhatsApp voice notes and transcribes them to text.

- Utilized the AssemblyAI API to transcribe audio files obtained from user-input URLs.
- Created a user-friendly custom UI using Flet to display the transcribed text.

<u>Certifications:</u>
1. Associate Cloud Engineer -Google Cloud
2. ISO-Quality Management Systems
3. AWS Machine Learning Foundations

<u>References</u>

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