

# DAVID OGALO

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## EDUCATION & CERTIFICATIONS

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### Strathmore University

Bachelor of Science in Informatics & Computer Science

Nairobi, Kenya

AWS Certified Cloud Practitioner

AWS Certified Solutions Architect

Oracle Certified Associate, Java SE 11 Developer

## SKILLS

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### Languages

JavaScript (React, Node.js), Java, Python, C#

### Database Technologies

MySQL, MS SQL Server, PostgreSQL, MongoDB, Elasticsearch

### Cloud Technologies

AWS, Azure, Google Cloud

### Tools

GitLab, Git, Docker, Kubernetes, Jenkins, Jira

### Additional Skills

SDLC, Data Preprocessing and Feature Engineering, Data Analysis, Prototyping, Documentation, Continuous Learning, Agile Methodologies

## PROFESSIONAL EXPERIENCE

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### Software Developer

January 2019 - Current

Full-Stack Developer

*Nairobi, Kenya*

- **Full-Stack Development:** Proficient in developing both client-side and server-side logic, specializing in building reusable code and libraries for future use. Skilled in designing and developing Microservices and Web Services to ensure interoperability. Leverage JavaScript frameworks, HTML5/CSS and Python to build web applications while integrating APIs, enforcing Security principles, and managing databases. Additionally, experienced in mobile development using React Native and Flutter frameworks to create cross-platform mobile applications with intuitive user interfaces, seamlessly integrating with backend APIs for a cohesive user experience.
- **Security Implementation:** Dedication to securing systems by implementing access restrictions techniques (incl. OAuth, Role-Based Access Control, Access Tokens), Adequate controls techniques (incl. Input Validation to prevent SQL injection or Cross-Site Scripting (XSS), Output Encoding, Data Encryption using HTTPS, Error handling and logging), Regular Security Audits and Penetration Testing as well as Security Awareness Training.
- **DevOps and Cloud Computing:** Implement DevOps practices, continuous integration/continuous deployment (CI/CD) pipelines, containerization (Docker), orchestration (Kubernetes), and cloud computing platforms (AWS, Azure, Google Cloud) for efficiently deploying and managing scalable application infrastructure.
- **Quality Assurance and Testing:** Proficient in conducting rigorous testing, including functional, security, performance, and usability testing, to detect and resolve issues prior to production deployment. Skilled in software testing principles, methodologies (unit testing, integration testing, end-to-end testing), and automated testing frameworks/tools (Selenium, Jest, JUnit), ensuring the reliability, performance, and security of applications

### Data Center Operator

Jan 2023 - Current

Kenya Revenue Authority (KRA)

*Nairobi, Kenya*

- **Database Administration and Optimization:** Implementing robust database management solutions to ensure the reliability, security, and scalability of databases. Utilizing advanced techniques for database design, optimization, and indexing to enhance data retrieval speed and resource utilization, for efficient data storage and access. Implementing backup strategies and disaster recovery plans to ensure data availability and minimize downtime.
- **Data Organization and Mining:** Leverage a combination of Python libraries (NumPy, Pandas, and scikit-learn) and SQL queries to efficiently collate, mine, and organize qualitative and quantitative data from diverse sources. Employ advanced data wrangling techniques to handle missing values, outliers, and inconsistencies, ensuring data integrity.
- **Data Security and Access Control Implementation:** Implementing robust data security measures and access controls within the data center infrastructure, I enforce stringent security policies leveraging technologies such as

firewalls, intrusion detection systems (IDS), and encryption protocols. By integrating concepts such as least privilege access, role-based access control (RBAC), and multi-factor authentication (MFA), I ensure comprehensive protection of sensitive data, mitigated risks, and maintained compliance with regulatory requirements.

- **Resource Monitoring and Utilization Optimization:** Deploying advanced monitoring tools like Zabbix to track resource utilization and performance metrics across servers, networks, and databases within the data center infrastructure. By analyzing data trends and employing techniques such as capacity planning and predictive analytics to identify optimization opportunities and implement strategies to enhance resource allocation.

### **IT Support Technician**

International Livestock Research Institute (ILRI)

May 2022 - Aug 2022

*Nairobi, Kenya*

- Collaborated closely with cross-functional support teams to effectively escalate and resolve complex technical issues, ensuring minimal disruption to end-user operations and maximizing overall client satisfaction.
- Implemented proactive measures to optimize IT infrastructure, enhancing system performance and strengthening cybersecurity protocols. Utilized virtual assistance tools and innovative techniques to streamline processes and bolster system resilience..
- Actively participated in system upgrades and maintenance activities, gaining hands-on experience in configuring hardware, software installation, and troubleshooting network-related issues. Leveraged a range of diagnostic tools and methodologies to ensure seamless network operations.

### **Software Developer Intern**

Centric Limited

Feb 2021 - May 2021

*Nairobi, Kenya*

- Contributed to the migration of legacy systems to AWS, implementing data migration strategies and leveraging AWS Database Migration Service (DMS), showcasing expertise in cloud architecture and data management.
- Engineered secure Identity and Access Management (IAM) solutions on AWS, ensuring granular access controls and robust authentication mechanisms for cloud resources, demonstrating expertise in cloud security best practices and compliance standards.
- Played a vital role in the implementation of Continuous Integration/Continuous Deployment (CI/CD) pipelines and containerization techniques, utilizing tools such as Docker and Jenkins to automate software delivery and deployment processes, showcasing a commitment to DevOps practices and software lifecycle management.

## **PROJECTS**

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**Sentiment Analysis on Social Media Data.** Conceptualized and developed a sentiment analysis model to quantify the positivity of tweets across diverse geographic regions. Leveraged advanced Natural Language Processing (NLP) techniques, including count vectorization, TF-IDF, and Doc2Vec, to extract meaningful insights from unstructured text data. Demonstrated expertise in Python programming, utilizing libraries such as NLTK and Gensim, alongside neural network architectures to train and fine-tune the sentiment analysis model.

**ANPR Parking Management System.** ANPR Parking Management System. Led the design and implementation of an Automatic Number Plate Recognition (ANPR) system, utilizing deep learning algorithms for accurate license plate identification. Employed TensorFlow for model training and optimization, leveraging supervised learning techniques with a dataset sourced from Kaggle. Utilized OpenCV for image preprocessing and feature extraction, enhancing model performance. Applied Optical Character Recognition (OCR) techniques and advanced image processing methodologies to extract license plate characters in real-time, ensuring precise and reliable identification. Additionally, implemented model evaluation and validation techniques to assess the performance of the ANPR system, including cross-validation and metrics such as accuracy and F1 score.

**Dynamic Webapp for Techsage Ltd.** Led the end-to-end development of a dynamic web application for Techsage Ltd. Utilized React to build the UI, then incrementally adopted Next.js features for routing, data fetching, and caching. Engineered robust backend architecture with Node.js and MySQL, optimizing performance and scalability.

**M-Ticket: Online Ticketing System.** Collaborated in the development of an online ticketing system. Utilized React.js and Node.js with MySQL for frontend and backend services, respectively. Integrated Flutterwave's payment gateway for secure payment processing. Tested and optimized system performance for reliability during peak usage.