Destiny Otto

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AI Engineer | Software Developer

Innovative AI Engineer with 4 years of proven impact designing and deploying intelligent systems across energy, logistics, and industrial domains. Expert in LLMs (GPT-4, Gemini), RAG pipelines, vector databases, and AI chatbot development with real-world deployments in cloud and edge environments. Adept at integrating computer vision, automation, and NLP into mission-critical workflows using tools like FastAPI, Docker, OpenCV, and LangChain. Passionate about building scalable, AI-powered solutions that transform operations in high-stakes, industrial settings.

CORE COMPETENCIES

- **AI & LLMs**: OpenAI API, Gemini API, LangChain, RAG, MCPs, Custom AI agents, Tokenization, Embeddings, Vector databases, NER, Summarization, Prompt engineering, Transformers, Computer Vision.
- **Automation**: Robotic Process Automation, Workflow Automation, No-code app integration, Browser automation, HTML parsing, Web scraping, Test automation, UI testing.
- **Programming & Scripting**: OOP, Shell Scripting, Debugging, Refactoring, Scientific Computing, Automation Scripting, File Manipulation, I/O, Development, API integration, GUI.
- **Cloud & DevOps**: Deployment, CI/CD pipelines, Containerization, Container Orchestration, Serverless computing, Object Storage, Version Control, Cloud Security, PaaS.
- **Data Engineering**: ETL pipelines, OCR, Regex, SQL, NoSQL & Relational databases.
- **ML & Data Science**: Linear Algebra, Statistical modelling, A/B Testing, Data Cleaning & Preparation, Feature Engineering, Classical ML Algorithms, Regression, Classification, Clustering, Neural Networks, Time Series Forecast, CNN, LSTM, RNN, Transformers, GANs, VAE, Transfer Learning, Data Visualization, Reporting and Dashboards, Experiment Tracking, Model Deployment.
- **Software Development:** Frontend Development, REST API, MCP, Authorization & Authentication, Unit tests, Integration tests, Asynchronous development, Caching, Version control, Package management, ORM, Databases, Logging, monitoring & error tracking, Web sockets.
- **Soft Skills**: Systems thinking, Process mapping, Documentation, Technical leadership, Proactive Initiative, Technical training, Team collaboration, Presentation

WORK EXPERIENCE

RightClick Solutions   08/2024 - 03/2025
Machine Learning Engineer • Contract   Abuja, Federal Capital Territory, Nigeria

- Spearheaded the development and deployment of PetrodocAI, an AI-powered document processing system for NNPC/Antan Producing Limited, automating the categorization and analysis of 22,000+ technical files using cloud-native AI pipelines, and deployed the application end-to-end on Heroku with seamless integration of background workers, persistent storage, and secured web access.
- Engineered an automated ingestion and classification pipeline using LangChain, RAG, and Gemini 2.0, categorizing documents (e.g., well reports, logs) and extracting key metadata, significantly improving data accessibility.
- Implemented Google Cloud Vision API for OCR on scanned documents (85% accuracy) and performed advanced data cleaning, standardizing data across 15+ formats (98% consistency).
- Developed an automated report summarization feature using OpenAI API and Gemini 2.0, extracting critical subsurface insights and reducing document review time by 95%.
- Built a versatile Python-based Technical File Parser supporting 15+ oilfield formats (SEG-Y, LAS, PDF, legacy files like PPT, XLS, DOC etc.), enabling efficient parameter extraction from 22,000+ documents within 2 weeks, and exposed its core functionality through a robust RESTful API for seamless integration with other tools and systems.

- Created UI/UX design prototypes and led the development of the NNPC/Antan Smart Data Management System from the ground up, providing secure, scalable storage and enabling efficient search, navigation, and preview of technical reports and other files along with advanced metadata tagging, role-based access control, AI chatbot, file previewers, document versioning, and automated activity logging – all built with React, Django, and PostgreSQL, integrated with AWS S3 for scalable file storage, Elasticsearch for high-performance search, and Celery with Redis for asynchronous task handling and background processing.

- Architected and executed a Python-based automation pipeline that transferred over 22,000+ files from SharePoint to (AWS S3 & Azure blob) in 48 hours, leveraging the Google Drive API to overcome permission and throttling constraints. Employed multi-threading and staged batching to ensure reliable, high-throughput transfer.

- Authored comprehensive technical documentation covering system architecture, RESTful API specifications, deployment procedures, and integration workflows; published via GitHub Pages to ensure accessible, version-controlled references for developers and stakeholders.

Edvantage Learning Solutions
Technical Consultant (Data & Machine Learning) • Contract

07/2022 - 12/2024
India (Remote)

- Delivered machine learning and data-driven consulting to oil & gas professionals (in the U.S., Middle East, India), bridging traditional upstream workflows with AI/ML solutions to enhance decision-making, operational efficiency, and subsurface understanding.
- Developed machine learning models for oilfield applications, including:
  - Rate of Penetration (ROP) Optimization using Gradient Boosting on high-frequency drilling telemetry data. The workflow included feature engineering from MWD/LWD parameters, model validation via cross-validation, and deployment through an interactive Streamlit dashboard for real-time drilling optimization insights.
  - Gas Lift Optimization Model incorporating multivariate regression and hyperparameter-tuned ML pipelines to enable lift performance prediction and cost-efficiency improvements. Integrated non-linear optimization to recommend optimal injection strategies.
  - Physics-Guided Machine Learning for Reservoir Surveillance in high-pressure gas wells—developed hybrid models combining empirical pressure-transient relationships with neural networks to estimate downhole pressure in wells with faulty gauge data. Incorporated a custom loss function (physics-based constraints) to ensure realistic predictions.
  - Predictive Maintenance for Mud Motor Failure, leveraging Isolation Forest and classification models (Random Forests) to forecast downhole mud motor failures using surface drilling telemetry (torque, SPP, vibration, RPM trends), enhancing tool reliability and minimizing downtime. Included data labeling from historical failure logs and SHAP-based model interpretability for engineering validation.
- Created end-to-end interactive ML dashboards using Streamlit and Dash, tailored for subject matter experts and decision-makers to explore model outputs, test scenarios, and understand ML value in context—serving as a bridge between traditional workflows and data-driven engineering.
- Created and taught specialized industry-facing courses on drilling analytics, production performance analytics, machine learning applications and data-driven automation workflows for 200+ experienced oil and gas professionals.

Heritage Energy Operational Services
Petroleum Engineering Systems (Data Analyst) • Contract

02/2022 - 07/2022
Lagos, Nigeria

- Developed and deployed the Automated Workflow for Workover Candidate Selection (AWWCS), an AI/ML system using Python and neural networks to optimize well intervention decisions. Engineered a multi-layered ML pipeline analyzing well performance data and reservoir characteristics, improving workover candidate identification accuracy by 25% over traditional methods.

- Implemented predictive analytics using LSTMs to forecast oil production decline curves with 90% accuracy, informing field development strategies.
- Designed and deployed Power BI dashboards to monitor daily production KPIs for 200+ oil wells across 8 oilfields, enhancing operational visibility and decision-making.
- Set up a real-time automated analytics pipeline that streams data directly from SharePoint to Power BI, enabling live dashboard updates and eliminating manual refreshes.
- Automated a high-complexity Excel-based workflow using VBA, reducing a 10-day manual task to under 4 hours—a 95% time efficiency gain.
- Authored high-impact reports on performance trends and anomalies for senior stakeholders.

TechPet Global   **07/2021 - 03/2022**
Founder and Technical Lead • Full-time   **Port Harcourt, Rivers, Nigeria**

- Founded TechPet Global and led the development of Appera, an AI-powered workflow orchestration platform designed to visualize and automate complex project pipelines.
- Led a cross-functional team of 12 in the design and development of core features.
- Implemented AI-driven automation to streamline data flows between simulation tools and analysis steps, enhancing efficiency in technical workflows.
- Designed a user-friendly interface to simplify complex file management, version tracking, and task execution across different software ecosystems.
- Developed Python and JavaScript microservices leveraging FastAPI, Pandas, and Node.js to automate the generation of simulation input decks (e.g., JSON, CSV, txt formats) and aggregate output results from simulation tools, cutting manual modeling and post-processing time by over 80%.

EDUCATION

Bachelor of Engineering - BE in Petroleum Engineering   **01/2014 - 01/2021**
University of Port Harcourt   **Port Harcourt, Nigeria**

TECH STACK

Category	Skills & Tools
AI & LLMs	OpenAI API, Gemini API, Chroma DB, FAISS, SpaCy, BERT, Word2Vec, NLTK, LangChain, Embeddings, Llama, Hugging Face, Google Gen-AI, Vertex AI.
Automation Platforms	UiPath, Zapier, n8n, Selenium, Beautiful Soup, Pytest, Schedule, PyAutoGUI
Programming	Python, MATLAB, VBA, JavaScript, SQL, Bash, Git and GitHub.
Web & APIs	FastAPI, Flask, Django, RESTful APIs, Dash, HTML, CSS, React
Cloud & DevOps	AWS (Lambda, S3, EC2), Azure Functions, Docker, CI/CD (GitHub Actions), Google Drive API, Vertex AI, Kubernetes, Heroku.
Data & ML	NumPy, Pandas, Scikit-learn, SciPy, Statsmodel, Matplotlib, Seaborn, Plotly, TensorFlow, Keras, PyTorch, PowerBI, Tableau, Spotfire, Streamlit, MLFlow, Weights & Biases, Jupyter Notebook, VScode, OpenCV, Pillow, Hugging Face Transformers.
Project Mgt	Slack, JIRA, Teams, ClickUp.

Languages: English (Native).