DAVID RUALES
SENIOR ENGINEER

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Perth, Australia
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Areas of Expertise

- ❖ Artificial Intelligence (AI) & Intelligent Agents
- ❖ Machine learning (ML) & Predictive Analytics
- ❖ Data Engineering & Integration
- ❖ Business Intelligence (BI) & Visualization
- ❖ End to end Software Development

Soft Skills

- ❖ Strategic Thinking
- ❖ Analytical & Critical Thinking
- ❖ Emotional Intelligence
- ❖ Innovation & Problem Solving
- ❖ Adaptability & Resilience

Software Skills

- ❖ **Languages & Core:** Python, SQL, JavaScript (TypeScript), VBA.
- ❖ **Backend:** FastAPI, Pydantic, SQLAlchemy, RESTful APIs.
- ❖ **Frontend:** React, TypeScript, Recharts, Tailwind CSS, Vite, Axios
- ❖ **AI & ML:** LangChain, LangGraph, Scikit-learn.
- ❖ **Cloud & DevOps:** Azure, Docker, Git, GitHub Actions (CI/CD)
- ❖ **Analytics & BI:** Power BI, Excel (Advanced VBA), Jupyter Notebooks.
- ❖ **Terminal/Command Line** for scripting and development workflows.

PROFESIONAL PROFILE

I am an AI and ML Senior Engineer with over 9 years of experience designing, implementing and deploying data-intelligent systems across industries. My passion for AI, ML, software and data science drives me to explore innovative ways to embed AI, machine learning models, and data analytics into complex business challenges and processes, transforming how organisations make decisions and operate, delivering 15% profitability increase and 45% labour cost reduction through predictive analytics and intelligent automation.

I've also led the development of an AI-powered full-stack application using React/TypeScript frontends with Python/FastAPI backends. Implemented LangChain/LangGraph agents for natural language SQL queries, Azure OpenAI integration and ML techniques to detect anomalies, enabling early intervention. Tech Stack: Python (FastAPI, Pandas, Scikit-learn, LangChain/LangGraph), React (TypeScript, Recharts, Tailwind), Azure (OpenAI, App Service, Data Lake), SQL Alchemy, Power BI.

PROFESSIONAL EXPERIENCE

LEAD ML & DATA SCIENTIST   12/2024 – current
Dataclysm – Perth, Australia

- ✓ Led end to end design, development and deployment of an AI-native analytics platform built specifically for Australian schools.
- ✓ Architected the end-to-end analytics pipeline, including data ingestion from LMS/SIS data modelling, and visualization modules.
- ✓ Developed student risk scoring models using ML techniques to detect attendance, performance, and engagement anomalies, enabling early intervention.
- ✓ Built an AI Assistant / natural language interface that responds to plain-English queries across educational data domains (attendance, assessment trends, risk cohorts).
- ✓ Automated Email Response Agent: Developed and deployed an LLM-powered agent that reduced average email response time from 2.5 hours to 10 seconds, achieving a 99.9% improvement in responsiveness.

SENIOR DATA & OPERATIONS ANALYST   03/2023 – 04/2025
Lynch Group – Perth, Australia

- ✓ Deployed a ML model that recommended items based on customer purchase likelihood, contributing to a 5% reduction in waste, 15% increase in profitability and improving resource allocation.
- ✓ Reduced transport costs by 12% through data-driven consolidation of shipments, improving overall logistics performance.
- ✓ Developed and automated performance tracking systems using Excel (VBA) and Power BI dashboards to monitor KPIs in real-time, enabling quicker adjustments and optimizing resource utilization.

DATA ANALYST & PROCESS OPTIMIZATION SPECIALIST   04/2020 – 02/2023
Lynch Group – Perth, Australia

- ✓ Leveraged data analysis to redesign the production layout, achieving a 33% cost reduction and improving efficiency through optimized use of resources.
- ✓ Built and maintained Power BI dashboards to track production metrics, facilitating real-time monitoring of product quality and improving internal customer satisfaction by 10%.
- ✓ Used SQL and Excel to gather and clean data, improving decision-making around production scheduling and resource planning.

Additional Professional EXPERIENCE

SUPPLY CHAIN & LOGISTICS DATA ANALYST   06/2018 - 03/2020
Beaumonde on the point – Perth, Australia

PROCESS & DATA ENGINEER   10/2017 - 01/2018
Tecnoquímicas S.A. – Cali, Colombia

PROJECT & DATA ANALYST   02/2016 - 10/2017
Constructora Melendez S.A. – Cali, Colombia

ENGINEER INTERN   05/2015 - 11/2015
Abbott Laboratories – Cali, Colombia

EDUCATION AND CREDENTIALS

Bachelor of Engineering (Industrial Engineering) - Migration Skills Assessment Competency Report (2022)
Engineers Australia – Australia
Credential ID: 8945025

Bachelor of Engineering (Industrial Engineering) (2011-2016)
Icesi University – Cali, Colombia

Technical Expertise

Programming & Languages: Python, SQL, JavaScript (TypeScript), VBA

Data Science & Machine Learning: Pandas, NumPy, Scikit-learn, SciPy, Statsmodels, LangChain, LangGraph, Matplotlib, Seaborn.

Data Engineering & Integration: SQLAlchemy, Pydantic, REST & GraphQL APIs, ETL pipelines, Data Cleaning & Transformation, Missing-Data Methods (MCAR, MAR, MNAR)

AI Development & Automation: LLM-driven Agents, Prompt-Chaining (LangChain/LangGraph), Intelligent Process Automation.

Business Intelligence & Visualization: Power BI, Recharts, Excel (Advanced VBA), Jupyter Notebooks, Dashboard Design, KPI Reporting

Full-Stack Development: FastAPI, React, Tailwind CSS, Vite, Axios, Node.js

DevOps & Cloud Infrastructure: Azure (App Service, Functions, OpenAI), Docker, Git, GitHub Actions (CI/CD), Anaconda, Virtual Environments

Operating Systems & File Systems: Windows, macOS, Linux CLI, Pathlib, PyFilesystem2