

NICOLAS KLEIN

Data Engineer | Python, SQL, BigQuery, APIs, Cloud & Data Platforms

Perth, WA | +61 450 952 855 | nicolas.klein.g@gmail.com | linkedin.com/in/nicolaskleing | github.com/nicokleing | nicolasklein.au
Work Rights: Full-time work eligible in Australia. VEVO/Curtin evidence available. | Availability: Immediate

PROFESSIONAL SUMMARY

Data Engineer with hands-on experience building SQL data models, Python data workflows, ETL/ELT processes, backend APIs and cloud-based data solutions across enterprise and government environments. Strong with SQL, Python, BigQuery, FastAPI, Node.js, Docker, Azure DevOps, AWS, Azure and GCP. Experienced in data validation, API-based data integration, batch workflows, reporting-ready datasets and production data reliability. Delivered measurable outcomes including 50TB+ BigQuery optimisation, national data workflow automation from 30 days to 3 days, and AWS-based ML workflow automation reducing retraining time by approximately 70%.

CORE TECHNICAL SKILLS

Data Engineering & Modelling: SQL, BigQuery, Python, ETL/ELT, relational and NoSQL data modelling, data validation, data quality, Pandas, NumPy, Spark/PySpark, Databricks, Microsoft Fabric, dbt

Cloud Data Platforms: AWS Redshift, AWS Glue, Amazon Kinesis, BigQuery, Microsoft Fabric, Azure, GCP, data lakes, batch/streaming data workflows

Software & APIs: FastAPI, Node.js, JavaScript, REST APIs, Swagger/OpenAPI, Postman, MongoDB, SQL databases, API-driven workflows

Cloud & DevOps: AWS, Azure, GCP, Docker, Terraform, GitHub Actions, Azure DevOps, Linux, CI/CD

Analytics-Ready Data Delivery: Power BI, Power Query, KPI logic, reporting datasets, dashboard-ready models, stakeholder data outputs

Applied AI & ML Workflows: OpenAI API, LLM orchestration, LangGraph, RAG-ready workflows, scikit-learn, ML pipeline automation, predictive maintenance research

Delivery & Systems: Azure DevOps, ServiceNow, Agile/Scrum/Kanban, technical documentation, requirements-to-delivery, stakeholder coordination

SELECTED IMPACT

- Optimised 50TB+ BigQuery data models and SQL logic for enterprise analytics, reducing compute costs by approximately 25% while protecting downstream reporting.
- Automated national subsidy reporting and payment workflows using Python, Power BI, SharePoint and structured data processes, reducing reporting cycles from 30 days to 3 days and management time by approximately 80%.
- Built national data workflows supporting approximately 950,000 citizens, 5,000 housing subsidies and a public housing budget of about US\$2.5B.
- Automated AWS-based ML workflows for predictive maintenance, reducing model retraining time by approximately 70% and improving reproducibility for technical handover.

PROFESSIONAL EXPERIENCE

Data Engineer | KarrotsKode / Client Projects | Perth, WA | Jan 2025 - Present

- Built API-driven data integration and reporting layers using FastAPI and Node.js, connecting operational, property, reservation and workflow data into structured datasets and traceability models.
- Developed Python data logic, reusable automation workflows and structured data capture patterns to support reporting-ready datasets and AI-enabled products.
- Containerised backend/data services with Docker and environment-based configuration to improve deployment consistency across local and cloud-ready environments.
- Built applied AI features, including a voice assistant and agentic automation workflows for nicolasklein.au/KarrotsKode using OpenAI API and LLM orchestration.

Machine Learning / Data Engineer | X-Analytic | Remote | Aug 2024 - Dec 2024

- Automated ML data workflows on AWS for predictive maintenance use cases, reducing model retraining time by approximately 70%.
- Built reproducible Python routines for data preparation, training, evaluation and standardised outputs, improving technical handover and developer onboarding speed by approximately 30%.
- Standardised execution steps and documentation to support repeatable experimentation and operational handover.

Data Engineer | Tata Consultancy Services - Client: MetLife | Remote | Jun 2022 - Nov 2023

- Refactored and optimised SQL logic and distributed data models in a 50TB+ BigQuery environment, reducing compute costs by approximately 25%.
- Delivered ETL/ELT and data model changes while protecting downstream reporting, enterprise analytics outputs and production data reliability.
- Validated API-related data changes using Swagger/OpenAPI and Postman, reducing delivery risk across integrated systems.
- Tracked controlled releases, incidents and delivery governance through Azure DevOps and ServiceNow; recognised with the Golden Guru distinction for BigQuery/SQL excellence.

Data & BI Engineer | MINVU - Ministry of Housing and Urban Development | Santiago, Chile | Jun 2021 - Jun 2022

- Redesigned national housing subsidy reporting using Python and Power BI automation, reducing reporting cycles from 30 days to 3 days.
- Engineered data and reporting logic for national subsidy workflows impacting approximately 950,000 citizens and supporting delivery of approximately 5,000 subsidies.
- Built reporting-ready data models and automated data workflows for national budget execution visibility across a public housing budget of approximately US\$2.5B.
- Converted policy and operational rules into reusable data structures, reporting logic and automated workflow outputs.

Data Systems Engineer | Intexa Ingenieria | Chile | Jan 2020 - May 2021

- Designed structured data models, KPI logic and process-control workflows for a custom CRM/commercial pipeline system.
- Built automated data capture and reporting workflows using SharePoint, Power BI and structured business data.
- Mapped commercial, operational and financial processes into reusable data structures, improving reporting consistency and commercial visibility by approximately 50%.

BI & Data Systems Engineer | Aerosan Airport Services / SAAM Group | Chile | Jul 2019 - Jan 2020

- Designed BI and analytical workflows for treasury, collections, cash and payment processes, reducing accounting close cycle time by approximately 30%.
- Built budget, contract and process-control reporting to support a US\$35M airport export-warehouse tender and the company's first zero-based budget in 15 years.
- Structured financial and operational data routines across budget, collections and payment workflows to improve reporting consistency and decision visibility.

Operations Systems Engineer | Municipal Corporation of Macul | Chile | Mar 2018 - Jul 2019

- Designed and helped deliver three municipal systems: an Accounting & Finance ERP implementation, a Single-Window Citizen Service Platform for public intake, and an operations platform for schools and public health clinics.
- Led requirements gathering, UML modelling, workflow design, database structure definition and business-rule mapping across finance, operations and public-service teams.
- Worked directly with the developer/vendor team to translate municipal operations into software architecture, data models and implementable system workflows, improving response time by approximately 60% and reducing annual costs by CLP 120M+.

Operations Technology & Business Systems Engineer | Take a Wok / Asian Food | Santiago, Chile | Sep 2016 - Jan 2018

- Designed and implemented internal business systems for inventory control, supplier management, purchasing, payments, cash-flow tracking and operational reporting.
- Built structured data capture and reporting workflows to improve visibility over stock levels, vendor activity, daily costs, payment status and operational performance.
- Modelled business rules and process logic for JIT/CPP-based inventory control, helping reduce waste, improve stock accuracy and increase liquidity by approximately 150%.

Commercial Data & Process Analyst | ACH Equipos Mineros | Santiago, Chile | Jan 2016 - Aug 2016

- Mapped commercial processes, implemented KPI/customer tracking routines and improved post-sale visibility, supporting a 70% customer satisfaction improvement against management targets.

EDUCATION & TRAINING

Master's in Data Science: Universidad del Desarrollo (UDD), Chile | Highest Distinction / Distincion Maxima. GPA 7.0/7.0 | 2020 - 2022

Doctor of Philosophy (Computing): Curtin University, Australia | Research focus: machine learning for predictive maintenance on edge hardware | 2026 - Present

Software Engineering Program: Curtin University / Institute of Data, Australia | 2024

Bachelor of Business Engineering / Business Administration: Universidad Andres Bello (UNAB), Chile | 2016

Additional Training: Diploma in Web Development, AIEP | Diploma in Accounting & Finance, UAI | Diplomas in Big Data, Data Science and Advanced Data Science, UDD

CERTIFICATIONS, AWARDS & LANGUAGES

DeepLearning.AI Data Engineering; Google Project Management Professional; Multi-Cloud Certified Data Engineer | Golden Guru Distinction (TCS); TCS LATAM Hackathon winner; PyCon Chile speaker | Spanish (native), English (professional working proficiency)