Frank M. Gonzales, P.E., M.S.E.E

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**Senior Analytics Engineer | Data & Analytics Leader**

Data-driven engineer with 20+ years of experience translating complex requirements into actionable insights. Proven track record in building scalable data pipelines, architecting cloud-based analytics platforms, and delivering high-impact data products that empower stakeholders across engineering, product, and operations. Adept at SQL, Snowflake, dbt-style modeling, Python, and cloud platforms (AWS, GCP, Azure). Recognized for clarity, collaboration, and driving innovation at the intersection of data, engineering, and business strategy.

1. **CORE COMPETENCIES**

* Data Engineering & Analytics: SQL, Snowflake, dbt, Python (NumPy, Pandas, Scikit-learn)
* Cloud Platforms: AWS, GCP, Azure | Data Warehousing & Lakehouse Architectures
* Data Modeling: Star/Snowflake schemas, ETL/ELT pipeline design, geospatial & time-series analytics
* Tools & Systems: Docker, Git, Hadoop, ETAP, PSS/E, CYME, Streamlit
* Advanced Analytics: Machine Learning, Forecasting, Predictive Modeling, GenAI Applications
* Leadership: Cross-functional collaboration, project management, stakeholder engagement

1. **PROFESSIONAL EXPERIENCE**

**Senior Engineer – Data & Analytics, Southern California Edison**

**2022 – 2025**

* Designed and maintained Snowflake-based data pipelines to perform load profile and geospatial analytics supporting electrification planning.
* Developed Streamlit applications integrated with Snowflake to deliver self-service analytics for business users.
* Implemented data validation workflows ensuring reliability and accuracy across large-scale grid datasets.
* Partnered with Product and Customer Insights teams to deliver actionable data products that supported early electrification initiatives.
* Optimized data pipelines and geospatial models for performance and scalability.

**Senior Engineer – Grid Analytics & Machine Learning, Southern California Edison**

**2015 – 2022**

* Technical Lead, EPIC II & III projects: developed hazard and storm impact prediction models leveraging ML to forecast equipment failures.
* Administered and optimized a Hadoop cluster for advanced analytics workloads.
* Built load forecasting models integrated into enterprise grid analytics platforms.
* Created machine learning–based storm analytics tools, delivering proactive damage prediction and mitigation strategies.
* Developed enterprise data integration and business intelligence reporting pipelines.

**Power System Planner – Data Architecture & Analytics, Southern California Edison**

**2008 – 2015**

* Designed and optimized data warehouse architecture to support strategic planning and reporting.
* Delivered BI dashboards and analytics reports to stakeholders, enabling data-driven decision-making.
* Led cross-functional system engineering and enterprise-level analytics initiatives.

**Engineer – Distribution & Substation Planning, Southern California Edison**

**2002 – 2008**

* Built, analyzed, and optimized large-scale power system datasets, delivering insights for operational planning.
* Performed data-driven scenario analysis (N-1, contingency, VAR, and load forecasting).
* Supported grid operations during critical storm events with real-time analytics.

1. **EDUCATION**

* M.S., Electrical Engineering – University of Southern California, 2010
* B.S., Electrical Engineering – California State Polytechnic University, Pomona, 2002

1. **PUBLICATIONS**

* Distribution System Planning for Growth in Residential EV Adoption, IEEE Transactions on Smart Grid, 2022
* Association Rule Mining for Localizing Solar Power in Distribution Feeders, IEEE Transactions on Smart Grid, 2020
* Advanced Data Analytics at SCE, DistribuTECH 2019
* Storm Impact Prediction Modeling in Distribution Power Systems, IEEE Transactions on Power Systems, 2019