
Senior Power Systems Professional | Data & Analytics Leader

Highly technical power systems professional and data-driven engineer offering extensive experience in power systems engineering, data engineering, data science, software development, and architecture. 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, power systems modeling, scripting, and cloud platforms (AWS, GCP, Azure, Databricks). Recognized for clarity, collaboration, and driving innovation at the intersection of data, engineering, and business strategy.

I. CORE COMPETENCIES

- Fast learner and team player who quickly adapts to different contexts.
 - Data Engineering & Analytics: SQL, Snowflake, dbt, Python (NumPy, Pandas, Scikit-learn)
 - Cloud Platforms: AWS, GCP, Azure | Data Warehousing & Databricks 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
-

II. PROFESSIONAL EXPERIENCE

Senior Engineer – Research & Development, ETAP

2025

- Algorithm Development: Develop and refine optimization algorithms for unbalanced power flow, DER sizing, and more. Improve scalability and performance of existing models.
- System Modeling & Simulation: Build and validate power system models (generation, transmission, distribution). Simulate scenarios to test optimization under real-world conditions.
- Research & Innovation: Stay ahead of trends in smart grids and energy markets. Contribute to research, white papers and technical presentations.

Senior Engineer – Scenario Planning, Southern California Edison

2022 – 2025

- Lead scenario and special studies to advance key technologies and ensure innovation in grid planning. Developed and documented actionable plans for grid design and operations improvements. Studies included transformer loading criteria analysis, high transportation electrification, and LA 2028 Olympics
- Implemented data validation workflows ensuring reliability and accuracy across large-scale grid datasets. Created data pipelines and algorithms for BESS deployments, grid flexibility using automated switches and load profile analytics.
- Lead early electrification customer insights (EECI) initiative on behalf of engineering organization. Created Snowflake data warehouse to consolidate transportation electrification data trackers.

- Customer Outreach Support Specialist on behalf of Business Resiliency in support of the Incident Command Team for all-hazards events and Public Safety Power Shutoffs (PSPS)

Senior Engineer – Grid Analytics & ML, Southern California Edison

2015 – 2022

- Technical Lead, EPIC II & EPIC III projects: developed hazard and storm impact prediction models leveraging ML to forecast equipment failures.
- Translate advanced analytics use cases for SCE into technical approaches that yield actionable recommendations, across multiple, diverse domains; communicate results and educate others through design and build of insightful visualizations, reports, and presentations
- Work in cross-disciplinary teams with Data Science industry experts to understand SCE needs and ingest data sources both internal/external to SCE including lab data and operational data. Performed actions to architect, design, prototype, and implement architectures to tackle the Big Data and Data Science needs for EPIC demonstration projects.
- Research, experiment, and utilize leading Big Data methodologies, such as Hadoop, Spark, Hive, Impala, SAP HANA, and Oracle Big Data Technology Stack 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.

Power System Planner – Data Architecture & Analytics, Southern California Edison 2008 – 2015

- Lead system engineering activities for SCE's Integrated Capacity Analysis public web map per CPUC mandate. This involved detailed, first of its kind distribution feeder modeling for simulations and advanced python scripting for processing time-series data from SCADA & AMI systems.
- Led cross-functional system engineering and enterprise-level analytics initiatives gaining extensive skills in business requirement capture and translation, hypothesis-driven consulting, work stream and project management, and client relationship development both internally and with external partners.
- Fluency in several programming languages such as Python, Java, and C++, with the ability to pick up new languages and technologies quickly; understanding of cloud and distributed systems principles, including load balancing, networks, scaling, in-memory vs. disk, etc.; and experience with large-scale, big data methods, such as MapReduce, Hadoop, Spark, Hive, Impala, Kafka.
- Strong grasp of algorithms and data structures; Highly skilled in databases including database design, modeling and implementation. Developed enterprise data integration and business intelligence reporting pipelines. Delivered BI dashboards and analytics application to internal stakeholders, enabling data-driven decision-making.

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). Design new overhead and underground distribution circuits to serve new load and maintain/improve system integrity and reliability out of Yucaipa Substation
- Responsible for Subtransmission System Planning, including A-Bank Planning, Circuit Design, VAR Planning, line assessments, contingency analysis, and technical investments justification for the Walnut 66kV, 16kV and 12kV Systems. Supported grid operations during critical storm events with

real-time analytics. Performed short circuit duty studies, fuse coordination studies, automatic re- closer coordination studies. Resolved any civil, electrical, and wiring discrepancies on drawings.

- Challenged to modernize distribution system planning software; this included creation of an enterprise scale relational database application interface for analyzing distribution and sub-transmission VAR requirements, substation peak & temperature normalization analysis, load growth analysis, load balancing, sub-transmission lines analysis, project initiation, project work-order tracking, duct bank temperature analysis, and heat storm tracking.

III. EDUCATION

- M.S., Electrical Engineering – University of Southern California, 2010
- B.S., Electrical Engineering – California State Polytechnic University, Pomona, 2002
 - Minor in Computer Science – Scientific Computer Programming
- B.S., Electrical Engineering – California State Polytechnic University, Pomona, 2002
- Project Management Certification - Cal Tech Pasadena 2012

IV. PROFESSIONAL AFFILIATIONS

- State of California Registered Professional Engineer - License No. 17657
- Member of IEEE, Power Engineering Society

V. 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
- Mitigation of Grid Susceptibility Caused by Behind-the-Meter Solar Generation, 2020 IEEE Conference on Technologies for Sustainability
- Advanced Data Analytics at SCE, DistribuTECH 2019
- Storm Impact Prediction Modeling in Distribution Power Systems, IEEE Transactions on Power Systems, 2019
- Weather Normalization of Temperature Sensitive Loads, IEEE Transactions on Power Systems, 2017
- Development of an Underground Cable Temperature Calculation Program using the Neher-McGrath Method, IEEE Transaction on Power Systems, 2010

SCE PROJECTS

Ductbank Temperature Calculation 2003

Developed duct bank temperature program for highly loaded subs using Neher-McGrath

eMap Short Circuit Duty Rings

2003

Developed fault duty intensity rings for personal grounds sizing on eMap

Distribution Substation Planning Tools 2003-2008

Developed database and interfaces for MDI

Load Growth Planning Tools

2008

Developed database and interfaces for LGP

Heat Storm Tracker

2004

Developed database and interfaces for HST

Project Summary Interface

2006

Developed database and interfaces for PSI

Substation Cost Management Tool

2009

Developed database and interfaces for SCMT

Integrated Work Plan Tools

2010

Developed database and interfaces for IWP

Generation Interconnection Tools

2011

Developed database and interfaces for GIT

Rate Challenge - TSA

2012

Refined temperature sensitivity analysis methodology for weather normalization of load

CYME Circuit Model Creator

2010

Developed python algorithm to build cyme circuit models from drawings

SOB322 Database to prevent fires

2014

Developed sob 322 database for identifying unsafe RAR settings and fuse sizes

EPIC I IGP

2015

Supported IGP factory acceptance testing of DMS Load Flow Engine

DER Integration Map (DERiM)

2016

Technical Lead for ICA calculation implementation for all distribution circuits.

DRP Demo A

2015

Technical Lead for demonstrating Integrated Capacity Analysis (streamlined vs. iterative)

ODAP – AMC

2017

Technical lead for outage detection and analytics program - PON/PRN Outage detection

Stanford - VADER

2018

Supported DOE funded project to demonstrate solar disaggregation algorithm

EPIC II – IGA

2019

Technical advisor for Integrated Grid Analytics project - AMI Forecasting

EPIC II – Storms

2019

Technical Lead for proactive storm analytics project - ML damage prediction

