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Professional Summary

Professional Engineer (P.E.) & Reliability Coordinator with 6.5 years of experience in Power System in Operation, Planning, Resource Integration, Modeling, Steady State & Dynamic Analysis at ERCOT ISO & LCRA TSC.
Master of Engineering from Lamar University Major in Power Electrical & Computer Engineering.
Currently pursuing a Master of Science in Artificial Intelligence at University of Texas at Austin.
Proficient in PSS/E, GE EMS SCADA/TSM/DTS, ABB MMS, Python AWS/IBM/ Siemens Certified.

Work History

Transmission Engineer 4 (Transmission Planning) | PEC | 1/2026 – Present

-Served as Lead Professional for planning team.
- Developed AELAB in Python for PSS/E Model validation and TARA PowerGen Result Visualizations.
-Structure processes, automate workflows and provide procedures and templates.
-Represent PEC in ERCOT DWG, SSWG.
-Perform Steady State and Stability Analysis for Generator and Large Load Interconnections Requests and Transmission Planning System Improvements.
-Propose and sponsor transmission system improvement projects.
-Submits CMLD, UFLS, DWG Contingencies.

Engineer (Transmission Planning) | LCRA TSC | 3/2024 – 1/2026

-Developed AELAB in Python automating Steady State Contingency Analysis, Dynamic Analysis, IDV generation, Contingency Generation & TPIT workflow.
-Review & approve Planned, For - Construction & Operational ratings for LCRA transmission lines & auto transformers & shunts resulting from substations, lines & auto transformers additions or upgrades.
-Prepare Transmission Project Information Tracking (TPIT) updates for internal & costumers' projects.
- Lead & present & assign tasks for planning team in multi department rating comparison meetings.
- Ensure system reliability, & compliance with NERC Standards, ERCOT Operation & Planning Guides.
-Maintain LCRA Planning Network Model in ERCOT according to capital projects in a timely manner.
- Participate in ERCOT SSWG, DWG, PLWG, LLWG, RPG, LFLTF working groups.
- Submit PMCR, DCP on ERCOT MOD for model changes & tunning.
- Propose & sponsor projects based on load forecast, generation & transmission capacity & budget.
- Perform Steady State Analysis for new Generation & Load Interconnect Requests.
- Perform Dynamic, Transient Stability and EMT Analysis for MOD-26, MOD-27, & Model Quality Test.
- Enhance model accuracy through data comparisons & validity checks.

Engineer (Transmission Operation & EMS Support) | LCRA TSC | 8/2022 – 3/2024

- Maintain LCRA Operation Network Model in ERCOT & LCRA EMS Model according to capital projects.
- Draft One Line Diagram for before & after network model changes for capital projects.
- Perform Contingency analysis for capital projects & outages & maintain State Estimator solutions.
- Submit Network Model Operation Requests (NOMCRs) & participate in ERCOT NDSWG working groups.
- Address real-time issues for SCADA, Transmission Security Management (TSM) applications & State Estimator.
- Maintain Dispatcher Training Simulator (DTS) system network model, data base & applications.
- Maintain PMU data in Epdc & RTDMS server & client access manager.
- Update Line ratings & Impedances in EROT model & EMS based on Engineering team publications.
- Participate in network data working groups with ERCOT Collaborate with customers like PEC, BBEC, BEC, SBEC.

Real Time Power System Engineer | ERCOT ISO (CROSSTRAINING) | 1/2022-4/2022

- Provide engineering support to ERCOT Control Room System Operators through Power Flow studies, Stability Assessments, & system applications support.
- Maintain Real-Time ERCOT State Estimator, Contingency Analysis, & Voltage/Transient Stability Analysis tools.
- Develop Constraint Management Plans such as TOAP based on engineering studies for grid vulnerabilities.
- Identify network model & applications quality issues.
- Collaborate with ERCOT System Operators & Market Participants to maintain grid reliability & security.
- Troubleshot situational awareness tools & reported grid status & developments to ERCOT departments.

Operation Training Instructor |ERCOT ISO | 10/2020-8/2022

-Develop power system simulation training scenarios to enhance ERCOT system operators' performance.
- Maintain EMS, MMS, & OTS systems, troubleshooted simulator issues.
- Prepare presentations for trainings & evaluate operator's responses during simulation trainings.
- Design simulations events for EEA, Black Start, RTA, IROL, Hurricane Drill, Low Inertia trainings.
- Participate as a RC, QSE or TO in real time simulations.
- Perform Contingency Analysis for DTS case preparation.

Power Electrical Engineer |ERCOT ISO – SOAL technologies | 10/2019 - 10/2020

- Perform RARF registration & Reactive testing.
- Review & processed generation interconnection & full interconnection study (FIS) applications.
- Review QSA Full Interconnection Studies such as Short Circuit, Faciality, Steady State, Stability Studies.
- Utilize EMS & PSS/E Transmission Planning load flow cases for power system analysis.
- Perform Steady State N-1 & N-1-1 Contingency Analysis for Generation Interconnection Requests.

Education

M.S., Artificial Intelligence (GPA 3.63) | The University of Texas at Austin | 8/2024 – Present

M.Eng., Electrical & Computer Engineering (GPA: 3.8) | Lamar University | 1/2019 - 5/2020

B.S., in Electrical & Computer Engineering |Shahid Beheshti University| 10/2012 7/2017

AI & Automation Projects: Please visit amirexirpe.com

Licenses, Certifications, & skills

- P.E. License (Licensed Professional Engineer) – Texas Board of Professional Engineers #151267
- NERC System Operator Reliability Coordinator Certification- #RC 202105039
- Siemens PTI Academy Automating PSS®E Using Python (PSSC_625)
- AWS Certified Cloud Practitioner.
- Machine Learning with Python IBM Certification.
- Databases & SQL for Data Science with Python IBM Certification.
- Python for Data Science, AI & Development IBM Certification.
- Data Visualization with Python.
- Familiar with electrical standards & protocols (NEC NFPA, NERC, ERCOT, ANSI, IEEE).

Software

PSS/E, PowerGEM TARA, Power World, , PSCAD, EMS GE Alstom, EMS GE Reliance , MMS ABB, DMVIew, PMView, DWG True View, PI, Edna, Seeq, MMAP, Xmap & Gridgeo
Python, MATLAB, SIMULINK,C++, Linux vi editor, R
Microsoft Office Excell, Word, PowerPoint and Access.