Names used: Amir Exir & Seyed Amirhossein Eksir Monfared |US Citizen

✉ : contact@amirexirpe.com 🌐 **https://amirexirpe.com** 🔗: **LinkedIn**   💻 : **GitHub** 📞 : +1(346)-412-9950

Professional Summary

Professional Engineer (P.E.) and Reliability Coordinator with 6 years of experience in Power System in Operation, Planning, Resource Integration, Modeling, Steady State and Dynamic Analysis at ERCOT ISO and LCRA TDSP. Master of Engineering from Lamar University Major in Power Electrical and Computer Engineering. Currently pursuing a Master of Science in Artificial Intelligence at University of Texas at Austin. AWS/IBM Certified. Proficient in PSS/E, GE EMS SCADA/TSM/DTS, ABB MMS, Streamlit, Embeddings, Python (Pandas, NumPy, Matplotlib, Scikit-learn, XGBoost, Pytorch, OpenAI), JavaScript, GitHub Pages.

Work History

Transmission Planning Model and Assessment Engineer | LCRA TSP (3/2024 – Present)

-Review and approved Planned, For - Construction and Operational ratings for LCRA transmission lines and auto transformers and shunts resulting from substations, lines and auto transformers additions or upgrades.

-Prepare Transmission Project Information Tracking (TPIT) updates for internal and costumers' projects.

- Lead and present and assign tasks for planning team in multi department rating comparison meetings.

- Ensure system reliability, and compliance with NERC Standards, ERCOT Operation and 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 and tunning.

- Propose and sponsor projects based on load forecast, generation and transmission capacity and budget.

- Perform Steady State Analysis for new Generation and Load Interconnect Requests.

- Perform Dynamic Stability Analysis for MOD-26, MOD-27, and Model Quality Test.

- Enhance model accuracy through data comparisons and validity checks.

Transmission Operation Network Model and EMS Engineer | LCRA TSP (8/2022 – 3/2024)

- Maintain LCRA Operation Network Model in ERCOT and LCRA EMS Model according to capital projects.

- Draft One Line Diagram for before and after network model changes for capital projects.

- Perform Contingency analysis for capital projects and outages and maintain State Estimator solutions.

- Submit Network Model Operation Requests (NOMCRs) and participate in ERCOT NDSWG working groups.

- Address real-time issues for SCADA, Transmission Security Management (TSM) applications and State Estimator.

- Maintain Dispatcher Training Simulator (DTS) system network model, data base and applications.

- Maintain PMU data in Epdc and RTDMS server and client access manager.

- Update Line ratings and Impedances in EROT model and 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, and system applications support.

- Maintain Real-Time ERCOT State Estimator, Contingency Analysis, and Voltage/Transient Stability Analysis tools.

- Develop Constraint Management Plans such as TOAP based on engineering studies for grid vulnerabilities.

- Identify network model and applications quality issues.

- Collaborate with ERCOT System Operators and Market Participants to maintain grid reliability and security.

- Troubleshot situational awareness tools and reported grid status and 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, and OTS systems, troubleshooted simulator issues.
- Prepare presentations for trainings and 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 to 10/2020
- Perform RARF registration and Reactive testing.
- Review and processed generation interconnection and full interconnection study (FIS) applications.
- Review QSA Full Interconnection Studies such as Short Circuit, Faciality, Steady State, Stability Studies.
- Utilize EMS and PSS/E Transmission Planning load flow cases for power system analysis.
- Perform Steady State N-1 and N-1-1 Contingency Analysis for Generation Interconnection Requests.

Associate Teacher | HISD | 2/2019 - 3/2022
- Teach math and physics, manage the classroom and follow the lesson plan.

Substitute Teacher |CFISD | 4/2018-1/2019
-Teach various subjects substituting for absent teachers.

Education

Master of Science in Artificial Intelligence – GPA 4.0
The University of Texas at Austin | 8/2024 – Present|
Courses: Deep Learning, Machine Learning, Optimization, EAI, AIH
Projects:
-Built a vision system and autonomous racing agent for SuperTuxKart, optimizing performance through advanced deep learning techniques.
-Applied machine learning algorithms to real-world data sets, solving problems in pattern recognition and dimensionality reduction.
-Developed ethical AI guidelines for system design, incorporating fairness and transparency into decision-making frameworks.

Master of Engineering in Electrical and Computer Engineering – GPA: 3.8
Lamar University |1/21/2019 - 5/12/2020
- Courses: Power System Motor & protection, Introduction to Robotics, Power Sys Stability & Control, Programmable Logic Controller, Computer Network I & II, Low Power CMOS Des & Rel, Cyber Physical Sys & Security, Instrumentation System and Auto.

Bachelor of Science in Electrical and Computer Engineering
Shahid Beheshti University | 10/2012 7/2017
- Courses: Protection and Relays, Power System I & II and labs, Electrical Machines I, II, III, Especial Machines and labs, Computer Architecture, Computer Programming, Linear Algebra, Electromagnetic, Industrial Drawing, System Analysis, Logical Circuits, Electronics 1 & 2, Telecommunications, Production and Power Station, High Pressure Plant Design and Project, Mathematics I, II and physics, Differential Equations, Statistics and Probability Engineering.

AI & Automation Projects (Self-Initiated)

Technologies: Python, Streamlit, OpenAI API, Embeddings, PSS®E, NLP, Scikit-learn, XGBoost, HTML/CSS, JavaScript, GitHub Pages, Kaggle.

Personal Portfolio Website and Resume & Portfolio Chatbot

-Developed and deployed amirexirpe.com to showcase my resume, certifications, and AI-powered tools. Integrated a recruiter-facing chatbot trained on my experience and projects using semantic embeddings. The site includes interactive galleries, contact forms, downloadable documents, and iframe-embedded live apps.

[Hourly Load Forecast App (AEP / PJM)](#) – *Live App: | Data: Kaggle (PJM Hourly Energy Consumption)*

-Built a live load forecasting tool using PJM hourly data from Kaggle. Applied time-series feature engineering (lags, rolling averages, calendar variables) and trained an XGBoost model with low RMSE. Deployed with Streamlit and embedded into portfolio via iframe.

[PSS®E Automation Assistant Bot](#), [PSS®E Multi Agent Automation Bot](#)

-Developed Copilot-style assistants that generate Python scripts for PSS®E tasks like contingency analysis, dynamic simulation, and model editing. Multi-agent version adds autonomous task by planning, retrieval and execution agents. Powered by the same end-to-end semantic search pipeline for high-precision technical retrieval.

[ERCOT Nodal Protocols, Planning Guides, DWG SSWG manuals and Resource Integration AI assistant](#)

-Built multiple GPT-powered assistants trained on ERCOT Planning Guides, Protocols, DWG/SSWG manuals, and interconnection processes. Used a custom embedding & retrieval pipeline to chunk, embed, and semantically search technical documents with OpenAI's text-embedding-3-small model and token-bounded cosine similarity. Supports compliance, model validation, and system integration analysis.

[Power Fault Classifier App](#)

-Created a Streamlit web app to classify power system faults using phasor measurements (Ia, Ib, Ic, Va, Vb, Vc). Trained and compared models (SVM, RF, MLP, XGBoost) with cross-validation and confusion matrix visualizations. Supports CSV uploads and result downloads.

[Power Grid GNN Alarm Prediction App](#) – Live App: | Data: IEEE 14-Bus (synthetic) + CSV uploads

Developed a Graph Neural Network (GNN) in PyTorch Geometric with Message Passing Computation (MCP) to predict bus-level alarm probabilities in a simulated power grid, incorporating DC power flow linearization for electrical features alongside topological and operational data, and deployed as a public Streamlit app with example datasets, topology visualization, and feature previews.

Licenses, Certifications, and skills

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

Software

EMS GE Alstom, GE Reliance (PSLF, SOTE, TSM, DTSPSM, SCADA, RTNET/RTNA, STNET/STNA, RTCA, STCA)

MMS ABB (SCED, COP, RUC)

PSS/E, PSLF, Power World, TARA, DmVIew, DWG True View, PI, Edna, Seeq, MMAP, Xmap, Gridgeo

Python, MATLAB, SIMULINK,C++, Linux vi editor.