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

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AI-generated content may be incorrect. [: GitHub](https://github.com/AmirExir)

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## 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, Python (Pandas, NumPy, Matplotlib, Scikit-learn, Pytorch)**

## Work History

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## Transmission Planning Model and Assessment Engineer (3/2024 – Present)

## -Review and approve 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 in capital projects.

## - 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, RPG, LFLTF working groups.

- Submits 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.

- Enhanced model accuracy through data comparisons and validity checks.

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## Transmission Operation Network Model and EMS Engineer (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 new substation, line, transformer additions.

- Submit NOMCR and DPC to ERCOT for Network model changes and participate in ERCOT NDSWG working groups.

- Address real-time issues for SCADA and Transmission Security Management (TSM) applications, 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 Shift Engineer (CROSSTRAINING) (1/2022-4/2022)

- Provided engineering support to ERCOT Control Room System Operators through Power Flow studies, Stability Assessments, and system applications support.

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

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

- Identified network model and applications quality issues.

- Collaborated 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 (Full time) (10/2020-8/2022)

-Developed power system simulation training scenarios to enhance ERCOT system operators' performance.

- Maintained EMS, MMS, and OTS systems, troubleshooted simulator issues.

- Evaluated operator responses during simulation training such as EEA, Black Start, RTA, IROL, Hurricane Drill, Low Inertia.

- Participated as a RC, QSE or TO in real time simulations.

- Prepared presentations for operation engineer and system operators like RTA presentation.



## Power Electrical Engineer (ERCOT – SOAL technologies) (10/2019 to 10/2020)

- Performed RARF registration and Reactive testing.

- Reviewed and processed generation interconnection and full interconnection study (FIS) applications.

- Reviewed QSA Full Interconnection Studies such as Short Circuit, Faciality, Steady State, Stability Studies.

- Utilized EMS and PSS/E Transmission Planning load flow cases for power system analysis.

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## HISD Associate Teacher (2/2019 - 3/2022)

- Teach math and physics, manage the classroom and follow the lesson plan.

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## CFISD Substitute Teacher (4/2018-1/2019)

-Teach various subjects substituting for absent teachers.

## Education

## 

## The University of Texas at Austin (8/2024 – Present)

## -Master of Science in Artificial Intelligence – GPA 4.0

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.

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**Lamar University (1/21/2019 to 5/12/2020**)

## - Master of Engineering in Electrical and Computer Engineering – GPA: 3.8

## - 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.

Shahid Beheshti University (7/2017)



- Bachelor of Science in Electrical and Computer Engineering

- 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, OpenAI API, Streamlit, Embeddings, PSS/E, NLP

-[Personal Portfolio Website](http://amirexirpe.com/)

Technologies: HTML, CSS, GitHub Pages, JavaScript, Python, Streamlit, OpenAI API

Designed and deployed a responsive website [amirexirpe.com](https://amirexirpe.com) to showcase resume, certifications, and AI-powered tools.

Embedded custom GPT-powered assistants for PSS®E automation, ERCOT documentation, and resume Q&A using semantic search and Streamlit.

Integrated interactive project galleries, downloadable credentials, and contact forms for recruiters and collaborators.

-[PSS®E Automation Assistant Bot](https://portfolio-8yebxmxquvaavwwg5va3tp.streamlit.app/)

Developed a Copilot-style assistant that semantically searches through PSS®E API documentation and code examples to generate Python scripts for automating power system analysis tasks including contingency analysis, dynamic simulation, and model editing.

-[ERCOT Protocol](https://portfolio-mkfjrirugw3bjzy6jfrjx4.streamlit.app/) & [Planning Guide](https://portfolio-evxbz642ppnqfsen8txlic.streamlit.app/) and [Resource Integration AI Assistant](https://portfolio-ewyxjs3snfqvos8pq2ior9.streamlit.app/)

Built GPT-powered assistants using chunked planning guides, protocols, and interconnection processes from ERCOT. Enables semantic search and question-answering for engineers working on compliance, integration, and operations.

-[Resume & Portfolio Chatbot](https://portfolio-nvngbm55k5prquuhngg7el.streamlit.app/)

Created a personal assistant embedded in my website that answers recruiter and visitor questions about my background, work history, certifications, and project experience using contextual semantic search over a custom-trained dataset.

-[End-to-End Embedding & Retrieval Pipeline](https://portfolio-8yebxmxquvaavwwg5va3tp.streamlit.app/)

Designed a data pipeline to clean, chunk, and embed large technical documents using OpenAI’s text-embedding-3-small model. Implemented cosine similarity with token-bounded top-K chunk selection for precise responses.

-[Streamlit-Based Interactive UIs](https://portfolio-mkfjrirugw3bjzy6jfrjx4.streamlit.app/)

Delivered fast, user-friendly apps using Streamlit for all assistants with embedded system prompts, dynamic chunk context injection, and conversation memory for real-time interaction.

## 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, SE, TSM, DTSPSM, SCADA, RTNET/RTNA, STNET/STNA, RTCA, STCA)

MMS ABB (SCED, COP, RUC)

PSS/E, PSLF, Power World, TARA, DWG True View.

PI, Edna, Seeq, MMAP, Xmap, Gridgeo.

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