**Anthony (Tony) ElHabr** —[*anthonyelhabr@gmail.com (mailto:anthonyelhabr@gmail.com)*](mailto:anthonyelhabr@gmail.com)

**Education**

**M.S. Analytics (Analytics Track), Spring 2020, Georgia Institute of Technology, GPA: 3.5/4**

*Working towards degree (2 classes per semester) while working full-time.*

*Notable Classes:* Discrete Optimization, Simulation, Regression Analysis, Time Series Analysis, Data and Visual Analytics



**B.S. Electrical Engineering (Power Systems Track), May 2016, The University of Texas at Austin, GPA: 3.85/4**

*Honors & Societies:* Engineering Honors Program Member, Virginia & Ernest Cockrell, Jr. Scholarship Recipient; Officer/Member of IEEEPower and Energy Society UT Student Branch



*Work Experience:* Teaching Assistant, EE438: Electronics Circuits (Spring 2016); Academic Tutor, multiple Engineering classes (2016)



**Skills & Abilities**

**SOFTWARE**

*Advanced:* R, VBA (for Excel), SQL (Oracle), Windows OS, Microsoft Office Suite, PowerWorld, PSSE



*Intermediate:* python, SAS, OsiSoft PiSeeq, JavaScript (Plotly and D3), HTML/CSS, git, C#, ASP.NET Web Framework



*Used:* C/C++, x86 assembly language, MATLAB, UPLAN



**ERCOT Experience**

**OPERATIONS ENGINEER II, OPERATIONS PLANNING (GRID ANALYSIS) | ERCOT | 12/2018 - present**

Develop tools and procedures to monitor transmission and generator events on the grid in real-time and up to 90 days in the future.

***Projects & Responsibilities:***

*Trend Analysis Tool*: Assist with development and maintenance of internal web-based BI dashboards for analyzing daily market andoperational information.



*Voltage Profile Seasonal Studies:* Conduct seasonal studies coordinated with Transmission Service Providers (TSPs) to define generatorvoltage setpoints.



*N-1-1 Tool:* Developed high performance power flow tool to evaluate N-1-1 contingencies on a daily basis.



*2019 Summer Analysis:* Gathered data and created visuals for outages and ancillary services in review of 2019 summer.



**MARKET OPERATIONS ENGINEER II, CONGESTION REVENUE RIGHTS (CRR) | ERCOT | 6/2017 - 12/2018** Prepared data for CRR auctions (about twice a month), and validated and analyzed results. ***Projects/Studies:***

*Price Convergence:* Evaluated correlations among settlement point prices across CRR, DAM, and Real-Time Market (DAM). Created pricecontour maps for illustrative purposes.



*Bidding Behavior:* Studied popularity of “penny bids”, fixed hedges, and portfolio diversity among CRR participants.



*CRR Validation:* Led group of CRR and Market Analysis team members in developing automated SAS tool to perform checks of CRRoptimization output.



**CO-FOUNDER/CO-LEADER, ERCOT DATA SCIENCE GROUP | ERCOT | 9/2017 - present day (19 meetings total)**

Schedule speakers for periodic meetings of an internal group that discusses data science concepts and their implementation.



Personally given 4 presentations: (1) R and the “tidyverse”; (2) logistic regression; (3) live-coding of solutions assigned exercises; (4) SQL tips.



**ENGINEERING DEVELOPMENT PROGRAM (EDP) ENGINEER | ERCOT | 7/2016 - 5/2017**

Completed 12-month program to provide entry-level engineers with skills for becoming successful in power industry.

***Projects:***

*NOX Emissions Sensitivity Analysis:* Evaluated impact of varying NOX emission allowance costs on generation dispatch using UPLAN.



*5 - Minute Resolution Wind Forecast Analysis:* Evaluated proposed auto-regressive (AR) model for Multi-Interval Real-Time Market (MIRTM)and analyzed accuracy of third-party vendor’s forecasts.



*Daily Market Summary Template Improvements:* Revised existing real-time (RT) and day-ahead market-(DAM) SQL queries to facilitateexecution on separate database and re-factored VBA code to improve readability and consistency.



**Pre-ERCOT Experience**

**INSTRUMENTATION ENGINEERING INTERN | EXXONMOBIL | 05/2015 - 08/2015 MONITORING & DIAGNOSTICS SYSTEMS SUPPORT INTERN | LUMINANT | 05/2014 - 08/2014**

**ELECTRIC DISTRIBUTION PLANNING & COMPUTER SUPPORT CO-OP | CENTERPOINT| 01/2014 - 05/2014**