M A Moonem, PhD

DATA ANALYST · SQL · PYTHON · POWER BI · TABLEAU · PUBLIC HEALTH DATA

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SUMMARY

Data analyst with 3+ years in public-health analytics at the Texas Department of State Health Services and a PhD in Electrical Engineering. Turns large, messy datasets into automated reports, dashboards and data-quality measures that program leaders act on, with strengths in advanced SQL, Python automation, Power BI and Tableau, and data quality at million-record scale.

SKILLS

Data & SQL Oracle, advanced SQL (complex joins, aggregation, query tuning), data extraction and validation

Python & Automation pandas, NumPy, Jupyter, openpyxl, Microsoft Power Automate, scheduled reporting pipelines

BI & Reporting Power BI, Tableau, Excel, KPI dashboards, trend analysis, stakeholder briefings

Data Quality Profiling, completeness and validity checks, reconciliation, exception analysis, trend monitoring

Public Health Immunization information systems, HL7 messaging, vaccine accountability, provider analytics

Also SAS, PySpark, Hadoop, Spark, scikit-learn, Informatica, AWS, Azure, GCP, MATLAB

EXPERIENCE

Research Specialist V, Immunization Data Analytics & BI

Jul 2023 – Present

Texas Department of State Health Services · Austin, TX

- **Cut COVID-19 vaccination reporting errors from 8% to 5%** across ~2.7M records through large-scale analysis and targeted provider outreach.
- **Automated data-quality reporting and outreach** in Python and SQL, cutting a week-long task for 3–4 staff to one day for one person.
- **Automated monthly vaccine-accountability reports for 50+ providers:** Python data preparation, customized reports, and distribution through Power Automate.
- Reconcile provider-reported doses against shipment, transfer, waste and administration data, and added data-exchange error flags that pinpoint causes of low reporting.
- Designed a contact-data quality initiative for pediatric records: baselines, valid/invalid/missing phone and email measures, prioritized providers, and automated progress tracking.
- Analyze statewide immunization registry data in Oracle SQL and Python for data-quality, provider and vaccination metrics used by program leadership.
- Build and maintain Power BI and Tableau dashboards for daily operations, data quality and doses administered; present findings in reports and briefings.

Associate Analyst

Nov 2021 – May 2023

Infosys · Austin, TX

- Supported data-mart applications with SQL, Python and AWS Lambda.
- Ran big-data analytics with Hadoop, Spark, Hive, Pig and Informatica in Agile/Scrum teams.
- Built a k-nearest-neighbors facial-recognition classifier and evaluated business processes as a certified Business Consultant.

Research Engineer

Jul 2020 – Oct 2021

The University of Texas at Austin · Austin, TX

- Analyzed time-series data on renewable-energy penetration in the ERCOT grid.
- Modeled renewable-energy integration and storage; contributed analysis to a DOE Energy Storage Grand Challenge proposal.

Postdoctoral Researcher Jan 2017 – Nov 2018

Sandia National Laboratories · Albuquerque, NM

- Researched lithium-ion battery safety through electrical-signal analysis and experiments.
- Analyzed grid-integrated energy storage; co-authored peer-reviewed papers, technical reports and patent-related work.

PROJECTS

- **Solar Second Opinion** (vetmysolar.com): independent review of residential solar quotes, checking price, equipment and production estimates against market data and NREL PVWatts.
- **Listo & Learnwise:** free web apps helping middle and high school students in Spanish, physics, chemistry and math.

EDUCATION

PhD, Electrical Engineering · The University of Texas at San Antonio

MSc, Electrical Engineering · Bangladesh University of Engineering and Technology

BSc, Electrical & Electronic Engineering · Bangladesh University of Engineering and Technology

CERTIFICATIONS

- Data Analytics & Visualization, The University of Texas at Austin
- Machine Learning with Python: From Linear Models to Deep Learning, MIT
- Professional training: SQL, Python, Hadoop, Spark, Hive, Scala, NoSQL, Informatica, Agile/Scrum, Jira, Azure, AWS

RESEARCH

IEEE journal and conference papers in power electronics, solar PV and energy storage, with 500+ citations. Full list on Google Scholar.