Skills   Python, Git, SQL, Power BI, Bash & PowerShell, Cron, Airflow, Docker, Amazon S3

Experience

Data Engineer R&D Applications, Research Chemical Company   2023

- Operation and data automation of corporate R&D Electronic Lab Notebook (ELN)
- SQL accuracy validation for migrations, partitioning updates, and data sanitization for developers
- Build automated Python Polars SQL-context csv report generation on Linux & Microsoft platforms
- SQL & Python LDAP and regex reports for user patterns presented in visual dashboards

Data Science & Engineer R&D, Research Chemical Company   2020

- Developed Python & SQL pipelines to extract lab documents transformed into database model
- Built Fast Fourier Transform (FFT) analysis & plotting pipeline command line and notebook interface
- Built visualizations with Dash Plotly, Jupyter Notebooks, and Microsoft Power BI for signal processing

Pilot Project Engineer R&D, Research Chemical Company   2018

- Integrated and automated time series and part wise database reporting using SQL & Python on virtual plant environment
- Designed machine user interfaces, instrumentation, and the data model for a new pilot factory
- Managed contract equipment installation and start up for nine pilot machines valued at $800k capital

Lab Research Engineer, Research Chemical Company   2014

- Scaled-up organic light emitting diode (OLED) purification and programmed robotic thin-film device fab

Application Engineer, Semiconductor Company   2012

- Scaled-up manufacturing and develop metrology applications for chemical vapor deposition diamond

Work Projects

- Fast Fourier Transform Numpy & SciPy signal processing automation with Plotly dashboard, JSON API, and runtime SQLite database
- Data pipeline automated from distributed labs storage into a parameterized SQL report workbook with a command line Python API
- Developed a semi-supervised Graph Laplacian machine learning model to estimate profiles from process inputs trained on semiconductor wafers

Education

MS Applied & Computational Mathematics (in progress)   2023

BS Chemical Engineering, Math Minor   2011