

# Peter Hagen Data Engineer

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## Professional Summary

Senior analytics and data engineering professional with 5+ years of experience designing automated data pipelines, analytics-ready datasets, and executive reporting systems. Strong background in Python, SQL, and data modeling, with experience supporting large-scale production datasets (100k+ records). Proven ability to translate business requirements into reliable data infrastructure across government, energy, and membership-driven organizations.

## Professional Experience

### Independent Data Engineering Consultant 08/2025 – Present | Annandale, VA

- Designing automated data ingestion pipelines using **Python** (Selenium, BeautifulSoup) to aggregate real-time market intelligence.
- Developing **Retrieval-Augmented Generation (RAG)** workflows using local LLMs and Vector Databases to enable secure document querying for sensitive datasets.
- Building event-driven architectures to automate recurring ETL tasks, reducing manual data gathering time by 90%.

### Director, Membership Data (Technical Lead) 02/2023 – 07/2025 | Washington, DC *National Association of Home Builders*

- Led development of scalable data pipelines and analytics datasets supporting 114,000+ member records
- Built and maintained SQL-based reporting layers powering Tableau dashboards used by executive leadership
- Automated recurring data workflows with Python and SQL, improving reliability and reducing manual effort
- Partnered cross-functionally to define metrics, ensure consistency, and operationalize analytics

### Career Sabbatical & Professional Development 11/2020 – 02/2023 | Annandale, VA

- Planned career sabbatical to assist family members during the COVID-19 pandemic.
- Utilized this period for intensive technical upskilling, focusing on **Python, SQL, and Cloud Architecture** to pivot from Business Analysis to Data Engineering.
- Completed advanced self-study on data pipeline orchestration and AWS infrastructure.

### Data Analyst 04/2019 – 11/2020 | McLean, VA *Defense Government Contracting International*

- Developed models to analyze fuel bids, pricing, and energy markets.
- Supported multimillion-dollar decisions with predictive analytics.

### Business Analyst 11/2016 – 07/2018 | Fairfax, VA *Jovie*

- Automated data processes with Python/R, improving operational efficiency.
- Designed SQL reporting to support workforce allocation for 200+ employees.

## Education

### Masters of Science 01/2018 – 05/2019 | Fairfax, VA *George Mason University*

- Capstone: Commercial Aircraft Failure Analysis
- GPA: 3.98

### Bachelors of Science 08/2011 – 12/2015 | Blacksburg, VA *Virginia Tech*

- Division 1 Club Lacrosse Team – Conference Champions (2013, 2014)

## Core Data Engineering Skills

### Languages

Python, SQL, R

### Analytics & BI

Tableau, metric definition, executive dashboards

### Data Engineering

ETL/ELT pipelines, data modeling, schema design, data quality checks, automated reporting

### Cloud & Tooling

AWS (S3, Glue, Lambda, EC2), Git/CI/CD, APIs, Workflow Automation