

# Michael Gallagher

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## Python Developer

Senior Python Developer with extensive experience building and optimizing large-scale data pipelines. Proficient in Python, SQL, Spark, Databricks, and Airflow, with a strong focus on troubleshooting and performance tuning. Seeking to apply deep data-engineering expertise to deliver robust, efficient data solutions that drive business outcomes.

## Technical Skills

- **Programming Languages:** Python, SQL, Bash
- **Data Science and Analysis Tools:** Databricks, Apache Spark, Airflow, Pandas, Polars, DuckDB, NumPy, Jupyter Notebooks, Hive, Hadoop
- **Cloud & DevOps:** AWS, Azure, Terraform, Kubernetes
- **Tools/Software:** Git, GitHub, Linux, JIRA, Confluence

## Professional Experience

### State Street

Jan 2025 - Present

*Senior Python Developer*

*Boston, MA*

Designed, developed, and optimized scalable data pipelines using Python, PySpark, Databricks, and Airflow, supporting high-volume trading and analytics workloads.

- Redesigned Airflow DAG dependencies for error-prone workflows, enforcing correct execution order while enabling parallelism for non-dependent tasks, significantly improving reliability and simplifying reruns and recovery.
- Led the design and implementation of a cross-team trade-linking pipeline, unifying high-volume trading data across disparate schemas and asynchronous schedules, enabling end-to-end trade traceability between internal systems.
- Collaborated closely with non-technical business stakeholders to review and refine pipeline specifications, translating business requirements into efficient, production-ready technical designs.
- Diagnosed and resolved performance bottlenecks in Spark Structured Streaming, redesigning joins against slowly changing lookup tables to significantly reduce latency.

### LexisNexis Risk Solutions

Oct 2021 - Jan 2025

*Python Developer / Data Engineer*

*San Diego, CA*

Devised automated testing strategies, developed Python scripts for tailored QA, and integrated test suites into CI/CD pipelines. Took on expanded data engineering responsibilities, playing a key role in designing and implementing efficient ETL data pipelines using Spark and PySpark.

- Spearheaded creation of a pipeline that validated client CSV files with Pandas and Polars, which increased data accuracy and standardization. Developed an automated feedback system that cut manual error checking and boosted client retention.
- Developed and optimized ETL pipelines using Spark and PySpark, which improved data processing efficiency and scalability. Used SQL for data manipulation and validation.
- Increased QA efficiency by building Python scripts with mock input/output datasets to automate testing, and updated them to meet evolving business needs, ensuring accurate results for data pipelines.
- Enhanced deployment speed by integrating test suites into Jenkins CI/CD framework, enabling nightly quality-assurance runs.

### STRATIS IoT

Jul 2021 - Sep 2021

*Resolution Engineer (Python/Django)*

*Philadelphia, PA*

Delivered support to clients in resolving complex problems faced by end users with mobile or web applications. Gathered all necessary information to identify fundamental causes of problems and deliver viable solutions.

- Enhanced application stability and client satisfaction by coordinating between support and development teams.
- Addressed minor issues without prompting and introduced tested solutions into the quality assurance workflow using Python scripts.

### Federal Aviation Administration

Mar 2021 - Jul 2021

*Air Traffic Control Specialist Trainee*

*Oklahoma City, OK*

Performed air traffic controller tasks by leveraging Flight Data Input/output (FDIO), Precision Approach Radar (PAR), Navigational Aids, aircraft transponders, and radio and telephone communication.

- Issued air traffic control clearances, instructions, and advisories for the safe and efficient management of air traffic under both instrument and visual flight rules across various simulated scenarios.
- Secured second-place ranking in class and attained perfect score on Ground Control evaluation.

## Education

University of Massachusetts Amherst

2013

*Bachelor of Science, Mathematics*