

# Robert L. Zacchigna

[About - Robert-Zacchigna.github.io](https://github.com/robert-zacchigna) | [Contact - Robert-Zacchigna.github.io](https://github.com/robert-zacchigna) | [linkedin.com/in/robert-zacchigna](https://www.linkedin.com/in/robert-zacchigna)

## PROFESSIONAL EXPERIENCE

### Capital One

May. 2022 – Present

Senior Assoc Software Engineer

Chicago, IL

- Designed and wrote internal python libraries/utilities to help facilitate data orchestration using an AWS Fargate deployed Airflow platform, resulting in a +35% reduction in duplicated/unneeded code, +20% pipeline development efficiency and a vastly more maintainable platform.
- Rebuilt legacy Python application to utilize event driven, micro-service (SNS, SQS, Glue, EC2), architecture, in AWS, resulting in a far more scalable and maintainable application, along with +15% decreased resource usage/cost among +200 users.
- Facilitated the solution architecture (IaC - Terraform) of new external partner data pipelines (Glue, Fargate, SNS, SQS), as the designated SME within my team. This architecture proved to be ~15% more resource efficient than other proposed solutions.

### Discover Financial Services

June. 2019 – May. 2022

Data Engineer

Riverwoods, IL

- Architected and implemented improved financial data pipelines leveraging PySpark, SQL, and Kafka resulting in a +20% performance increase in loading high-velocity financial data into Snowflake.
- Optimized deployed financial data models utilizing PySpark, Jenkins, and in-house modeling tools to on-premises servers, resulting in +15% lower resource cost/usage while adhering to stringent data governance and security standards.
- Designed and implemented a containerized (OpenShift) multi-platform development application with cross-functional teams to address current internal development tool short-comings, resulting in +30% increase in development efficiency across +800 internal users.

## EDUCATION

### Bellevue University, Master of Science – Data Science

Nov, 2021

- Personal website containing my projects: <https://robert-zacchigna.github.io/>

### Illinois State University, Bachelor of Information Technology – Systems Analyst/Development

May, 2019

Honors: *Cum laude*, National Society of Collegiate Scholars, Dean's List

## TECHNICAL SKILLS

- Data Science:** Modeling, Machine Learning, Tensorflow, PyTorch, Pandas, PySpark, Spark
- Data Engineering:** Databricks, ETL, Airflow, Glue, Kafka, Orchestration, Data Warehouse/Lake
- DevOps:** Docker, Kubernetes (K8s), GitLab, Git, Agile, Jenkins, CI/CD, Unit Testing, MLOps, Artifactory, Linux
- Cloud:** AWS, Terraform, EC2, ECS, EMR, Glue, RDS, S3, EFS, SNS, IAM, Lambda
- Database:** NoSQL, MySQL, Postgres, SQLite, Aurora, DynamoDB, Snowflake
- Programming:** Python, Scala, SQL, HTML/CSS, Javascript/Typescript, Bash, API, PowerShell
- Visualization:** Tableau, Plotly, Power BI, ggplot2, matplotlib, seaborn

## CERTIFICATIONS AND PROJECTS

- [AWS Certified Machine Learning – Specialty](#) (2024)
- [AWS Certified Solutions Architect – Associate](#) (2022)
- Python Etrade API Module ([PyEtrade](#))**
  - Significantly refactored an existing python Etrade API module to enhance code quality, unit-tests and cleanliness.
  - Realigned missing functions and parameters to be in line with API documentation specifications and adding several missing/undocumented API endpoints to the module.
  - Received praise and recognition from the original author for my significant code contributions (+200 Stars).
- Multi-Processing Media File Management CLI ([MKVAudioSubsDefaulter](#))**
  - Created a Python CLI to more easily edit/organize tracks and manage metadata of Matroška (MKV) media files without having to remux (re-encode) the files.
  - Multi-processing allows this to be easily scalable and automatable to a large amount of files, processing over 1500 files in less than 4 mins (+375 files/s).
- Malaria Cell Image Classification ([FastAI and Keras/Tensorflow Comparison](#))**
  - Cross compared FastAI and Keras neural network models, for determining if an image (~7000 images) of a cell is infected with malaria or not, to see the differences between how the models are developed and performed.
  - Both models scored very well, with a +94% prediction accuracy.
- Automated (hobby) Home-Lab for Personal Testing and Development**
  - Home automation to help with my daily life, such as: resource/hardware performance monitoring, easily accessible development environments, automated data pipelines for scraping data and managing finances/investments.