

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

Software Engineer

Chicago, IL

- Optimized an AWS Fargate deployed Airflow orchestration platform dedicated to efficient data and report processing, resulting in +20% resource efficiency and +15% data publishing velocity.
- Rebuilt legacy application to utilize an 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 +100 users.
- Facilitated the solution architecture of new external partner data pipelines (Glue, Fargate), as the designated subject matter expert within my team, with my solution proving to be ~10% 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

Master of Science – Data Science, Bellevue University

Nov, 2021

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

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

May, 2019

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

TECHNICAL SKILLS

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

CERTIFICATIONS AND PROJECTS

- [AWS Certified Machine Learning – Specialty](#) (2024)
- [AWS Certified Solutions Architect – Associate](#) (2022)
- 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.
- 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 5 mins (+300 files/s).
- 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.