

## ADRIAN NG

Junior Metadata Engineer at IAG Cargo

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### DATA SCIENCE & ANALYTICS

### MECHANICAL ENGINEERING

### TRAINING

**Royal Holloway**  
*MSc.*

2017  
Distinction

**King's College London**  
*BEng.*

2010  
2:1

Functional Programming in Scala, **EPFL**, in progress

## IAG CARGO

*Junior Metadata Engineer*

*Data Platform Team*

*June 2019 - Present*

**Prototype Implementation**  
PL/SQL

Implemented data processes originally prototyped by Data Exploitation team in *Alteryx/ Tableau*

- Achieved efficiencies where possible:
  - Computed *directed network graphs* with set-based iteration (**CROSS JOIN**, inline recursion)
  - Cached remote/computationally expensive datasets in *global temp tables*, *materialized views*
  - Utilized PL/SQL like a functional language with table-valued functions.
- Established standards for Data Exploitation prototypes to follow (documentation, UAT evidence)

**Self-Service Pipeline Creation**  
Python, Powershell

Built an automated service enabling Data Exploitation team to set up their own data pipelines.

- Adopting **yaml** for user-friendly configuration resulted in utilization across multiple projects
- Underlying code (Python, Powershell) made use of object-oriented patterns and practices
- Visualized unusually large/small imports in *Tableau* with time-series analysis (differencing)
- Clear documentation (installation, configuration) ensured continued use throughout Lockdown

**Sales Relational Model**  
Oracle

Modelled the relationships between entities: sales agent/customer/location

- Relational design resulted in efficient ETL, constant uptime, and immediate retrieval
- Co-opted *Sharepoint* as ETL interface, facilitating data ownership for non-technical stakeholders

**Training**

Prepared training materials and hosted workshops (SQL fundamentals, Markdown)

**Data Glossary**

Established editorial guidelines for internal Wiki/Data Glossary. Interviewed others for content.

**Mentorship**

Mentored a colleague (*moving-ahead.org*). Listened to issues, asked questions. Provided guidance.

## MANCHESTER CITY FOOTBALL CLUB

*Data Analyst*

*Fan Relationship Management*

*Jan. - July 2018*

**NYCFC ETL**  
Project Owner

Integrated New York City FC data into our analytical warehouse. Six-month project covering data discovery, analysis, engineering. Multiple data sources: • NYCFC • Ticketmaster • Salesforce

**Pipeline**

- built pipeline ingesting data from multiple databases
- achieved speed improvements using efficient DML & DDL (**OPENQUERY**, **MERGE**)

**Cubes**

Storing analytical datasets in *Data Cubes* achieved:

- up-stream computation of all drill-down/roll-up levels and **GROUP BY** permutations
- reduction in size of dataset, increasing bandwidth across servers
- improved user-experience in *Tableau* front-end

**GDPR Pipeline**  
Technical Lead

- integrated new GDPR schema into existing datastores (*SQL*, *Salesforce*)
- provide schema specification to **SQL** developers, advocating for indexable data types
- built efficient **MERGE** process featuring relational database design
- implemented a process to wipe personally identifiable data for opted-out individuals

## CREATOR (NOW INSPIRED THINKING GROUP)

*Senior CRM Campaign Executive*

*SQL Development*

*Dec. 2013 - Sept. 2016*

**ETL Process for CRM Broadcasts**

Built a configurable ETL process to ingest (via **BULK INSERT**), transform into CRM segments, and load into broadcast service (*Lyrus*).

adrian.ng/SQL/recursion  
adrian.ng/openquery-xml

- capable of multiple file ingestion, gained time-savings over the *SQL Server* import wizard
- achieved efficient joining of local and remote tables, using dynamic **SQL** to embed **XML** in **OPENQUERY**
- implemented efficient regex parsing with recursive CTEs, mapping delimited strings to rows