EMMANUEL ANIOS FILS MOMPREMIER

Essen, Germany · (+49) 1746411205 · eafmo@kth.se · Selected Projects · Portfolio · LinkedIn

SUMMARY

Extensive background in battery technology, vehicle electrification, data/database/data analytics and Python-based optimization. Over 1 year of experience in providing data-driven insights in sustainable energy, including the development of a novel data acquisition standard for BMW's battery manufacturing plant in Munich. Positioned to contribute effectively to McKinsey's Battery Insights with expertise in pioneering solutions for batteries, key enablers of a low carbon economy.

SKILLS

Energy Systems:	Battery, Battery Electric Vehicles, Charging, Smart Grids, Solar and Wind Systems
Coding & Modelling:	Python, SQL, Pyomo (Optimization Models), MATLAB, Co-Simulation, scikit-learn, Machine Learning
Database:	PostgreSQL, MSSQL, MongoDB, Airtable, Azure, Databricks, Data Management
Advanced Analytics:	Tableau, Power BI, ThoughtSpot (AI-Powered Analytics), Self-Service Data Analytics
Certifications:	Leadership in Renewable Energy (IRENA), SQL and Databases (Udemy), Business Innovations (ESADE)
Languages:	French (native), English (fluent), Mandarin (advanced), Spanish (advanced), German (basics)

WORK EXPERIENCE

RWE Renewables — **Essen, Germany**

Data and Visualization Engineer (IT Graduate) — *September 2023 – Present*

- Implementing Tableau, Power BI, and self-service analytics, empowering 15+ business/data analysts for efficient database access and visualization of wind farms data
- Leading campaigns to identify strategic applications for GenAI across the data domains in the sustainable energy industry
- Executing a Proof of Concept for ThoughtSpot, a GenAI analytics tool, potentially cutting analytics reporting time by 30%

Advanced Skills: Innovative Data Analytics, Sustainable Energy, Database Management, SQL, GenAI, Tableau/Power BI

BMW Group — **Munich, Germany**

Battery IoT Data Engineer (Intern) — *January 2023 – July 2023*

- Developed an industrial data acquisition method to standardize data collection & ensure data quality from over 1000 parameters/sensors and multiple vendors in battery cell production at the manufacturing plant in Munich [Slides]
- Authored the paper "Cross Industry Standard Process for Data Acquisition (CRISP-DA)" under review for publication
- Built equipment-to-cloud data pipelines with OPC UA, Python, SQL and AWS storing 100+ GB of battery production data
- Conducted comprehensive training sessions for 10 control technicians and external stakeholders, fostering efficient factory-cloud connections and close collaboration within the production's analytics team
- Enhanced team onboarding efficiency by 50% for two members via meticulous documentation on JIRA & Confluence

Advanced Skills: Battery Research, Data Management, Database Building, Python, SQL, Project Management

LORIA — **Nancy, France**

EV Co-Simulation Engineer (Intern) — *July 2022 – September 2022*

- Co-simulated the physics-based model of an EV powered by fuel cells and supercapacitors using Python, FMU and Modelica (500+ lines of code) to enhance the model's performance by 20% & determine variation of the capacitors' SOC

Advanced Skills: Electric Vehicles, Charging, Mathematical Models, Python, Algorithms, Research

SELECTED PROJECT

EV Charging Station Optimization (*Skills: Charging, Optimization, Simulation Models, Python) [Python Code]*

- Built a MILP Optimization using Python, Pyomo and CBC solver to devise a strategy for efficient charging of an EV pool
- Designed a controller with EV's SOC and power flow constraints achieving 98.48% accuracy in charging predictions

Cobalt Mining and the Green Energy Revolution (*Skills: Research, Battery, Critical Minerals) [Report]*

- Exploration of the factors behind DR Congo's mineral curse and analysis of their implications for global battery production

EDUCATION

KTH Royal Institute of Technology & Université de Lorraine — **Stockholm, Sweden & Nancy, France**

Joint Master of Science in Smart Energy Systems — *September 2021 - July 2023*

- Won the EV Charging Optimization Python Hackathon by coding a controller with 98% accuracy in charging predictions
- Master Thesis @ BMW Group: A Methodology for End-to-End Digitalization of Battery Cell Production

National Taiwan University — **Taipei, Taiwan**

Bachelor of Science in Mechanical Engineering — *September 2017 - July 2021*

- Awarded MOFA Taiwan Scholarship (20 out of 2000+); Received Presidential Award for academic achievement (top 5%)