

Samuel Ayman

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Address: Alexandria, Egypt | Military status: Temporary Exemption

Data Engineer

Summary

Highly motivated Electronics and Communication Engineering graduate with a strong passion for Data Engineering. Gained hands-on experience with ETL concepts using Python and SQL through academic coursework and personal projects. Familiar with data modeling, database management, data warehousing, big data concepts, and workflow orchestration tools. Seeking an entry-level Data Engineer position to contribute to data pipeline development and analytics solutions.

Education

Bachelor of Electronics and Communication Engineering - CGPA: 3.25

Faculty of Engineering, Alexandria University

Oct 2020 – Aug 2025

Graduation Project: Smart Glasses for Blind People, integrated currency recognition, object detection, and face recognition using computer vision, leveraging real-time data processing and machine learning techniques.

Courses

Coursera Data Engineering Training

Jul 2024 – Oct 2024

- Completed Introduction to Data Engineering and SQL & Databases courses, gaining a comprehensive understanding of the data engineering lifecycle and modern data architecture.
- Explored cloud-based and big data solutions, including data warehouses, data lakes, and Hadoop ecosystem concepts for large-scale data storage and processing.
- Acquired proficiency in Python for data extraction, transformation, and loading (ETL) tasks using Pandas and NumPy.
- Gained strong understanding of relational databases, SQL query optimization, and database design principles (ERD, EER, normalization, join operations).
- Studied fundamentals of data modeling, data warehousing, and distributed data processing frameworks.

Projects

- ETL Pipeline:** Designed a Python (Pandas) ETL pipeline to extract, clean, and load sales data into a local database with error handling and performance optimization. [GitHub - ETL pipeline project](#)
- Web Scraping Pipelines:**
 - Built a Python pipeline to scrape, transform, and store data from Yalla Kora and Wuzzuf into structured CSV files.
 - Developed a Books to Scrape project to collect book information across categories, clean and normalize the data, and export it into CSV format for analysis. [GitHub - Web scraping projects](#)
- SQL Projects & Practice:** Solved SQL challenges on HackerRank, LeetCode, and SQLZoo, leveraging advanced queries (JOIN, GROUP BY, WINDOW FUNCTIONS) and applying them to real database projects. [GitHub -SQL codes](#)
- Apache Airflow Mini Project:** Automated SQL workflows with Airflow DAGs using SQLExecuteQueryOperator, PythonOperator, and EmailOperator; integrated PostgreSQL connections, alerts, and scheduling.

Academic Projects

Graduation Project smart glasses for blind people [GitHub -Grad project](#)

Oct 2024 – Jul 2025

- Managed data pipelines for face, object, and currency recognition models.
- Collected and processed datasets using Python, PyTorch, OpenCV, and CVAT.
- Enhanced the COCO dataset through hybrid annotation and targeted preprocessing.
- Augmented and optimized currency recognition data, resulting in a 27% increase in model accuracy.
- Improved object detection performance by 36% through advanced preprocessing and data augmentation techniques.

Pintos (Model Operating System) [GitHub - Pintos project](#)

Apr 2023 – May 2023

- Developed core OS components in C, including timer interrupts, thread scheduling, and command-line argument handling.
- Collaborated with a 4-person team to implement system-level features ensuring stability and correct memory management.

Data structures [GitHub - Data structures](#)

Jan 2023

- Developed a robust queue executed in C to handle dynamic data.
- The queue was streamlined for efficient insertion, deletion, and retrieval operations, making it suitable for various applications
- Developed various linked list implementations in C, including singly linked lists, doubly linked lists, and circular linked lists.

Linux Shell - [GitHub - Linux Shell](#)

Mar 2023

- Created and developed a Linux shell in C, focusing on process management
- The shell supports a variety of built-in commands and external program execution.
- Verified the solution through testing and ensured all commands are working in the right way.

Skills

- **Programming Languages:** Python, SQL, C, Shell.
- **Data Engineering Tools & Libraries:** Pandas, NumPy, Beautiful Soup, Requests, SQL Server
- **Development Tools & Environments:** Git, Jupyter Notebook, VS Code, Airflow
- **Project Management & Collaboration:** Trello, Code Review, Team Player
- **Soft skills:** problem solving, Critical thinking, Continuous Learning
- **Languages:** English - Intermediate (B2), Arabic - Native

Certificates & Achievements

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| • Introduction to Data Engineering | Coursera - IBM Certificate |
| • Introduction to Relational Databases | Coursera - IBM Certificate |
| • Python for Data Science and AI | Coursera - IBM Certificate |
| • Python Project for Data Engineering | Coursera - IBM Certificate |
| • Database and SQL for data science | Coursera - IBM Certificate |
| • Linux Commands and Shell Scripting | Coursera - IBM Certificate |