



# CERTIFICATE OF COMPLETION

This is to acknowledge that

**ANDRES RAMOS LOPEZ**

has successfully completed the structured course

**HANDLING BIG DATA WITH PANDAS, POLARS, AND  
PYSPARK**

Given this February, 2 of 2026

A handwritten signature in black ink that reads "Sam Mckay". The signature is fluid and cursive, with a horizontal line underneath it.

**Sam Mckay**  
CEO, ENTERPRISE DNA