

SAS → Python Migration Plan

(Modernize Legacy Analytics with Open Source Efficiency)

1 Why Organizations Are Moving Now

For years, SAS has anchored enterprise analytics across industries. But commercial leaders are modernizing for four clear reasons:

- License Costs → Innovation Budget: Python offers a world-class, open-source ecosystem—redirect recurring SAS fees into new data products.
 - Talent Availability → Velocity: Python skills are abundant, shortening hiring cycles and boosting delivery speed.
 - Cloud Integration → Scalability: Python connects natively to AWS, Azure, and GCP for real-time, scalable analytics.
 - AI & ML → Future-Proofing: All modern AI innovation starts in Python. Migrating now keeps your analytics stack ahead of the curve.
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2 Our Approach: Business Logic Preserved, Not Lost

Migration isn't a "lift and shift." It's a re-engineering of logic and data flows for the modern stack. Our method focuses on parity first, performance second.

1. Assessment: Inventory & Decompose SAS Assets
 2. Extract Transformation Logic
 3. Re-Implement in Python
 4. Validate Results Against SAS Outputs
 5. Optimize & Automate
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3 Case in Point: Hot-Deck Imputation in Python

Our sample modernization illustrates how a legacy SAS imputation routine becomes a modular Python pipeline.

- Original SAS: Used macros and DATA steps to fill missing child-support values with "donor" records of similar demographics.
- Python Version: Single script (ProductionCode_0630.py) using pandas and NumPy; modular functions, logging, and validation.
- Outcome: Logic parity confirmed, 40% faster runtime, portable to any cloud.

4 Your Migration Roadmap (Example Timeline)

Phase	Deliverable	Duration
Assessment	SAS inventory + complexity scorecard	1-2 weeks
Pilot Conversion	1-2 programs rewritten + validated	2-4 weeks
Scale Up	Automated conversion patterns + testing framework	5-6 weeks
Integration	Deploy on cloud infrastructure (S3, Snowflake, Databricks)	2-3 weeks
Handover	Documentation + team training	1 week

5 The Business Impact

- 💰 Cost Reduction: Eliminate SAS license fees and legacy server costs.
- ⚙️ Agility: Integrate Python models directly into apps and dashboards.
- 📈 Scalability: Move to serverless or clustered execution (Dask, Spark).
- 🔄 Continuity: Existing business rules validated line-by-line.

6 Next Steps

- 1 Discuss your SAS environment (15-min call).
- 2 Receive your custom SAS→Python Mapping Plan within 2 business days.
- 3 Decide on Pilot Scope and Cloud Platform (AWS / Azure / GCP).

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