



Vita Global Sciences

FROM RESEARCH TO REALITY

PD02

Breaking Into Statistical Programming: How SAS, R, Python, AI & ML Are Shaping Career Paths

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Why This Topic Matters?

- Demand for statistical programmers continues to grow
- Career changers and graduates often ask how to enter
- The role itself is evolving rapidly

Agenda

- Career paths into statistical programming
- Skills and tools shaping the field
- Hiring manager expectations
- Practical advice for entering the field
- Future outlook

A Common Myth

- There is only one way to become a statistical programmer
- You must have a specific degree
- You must know every tool before applying

Real Career Paths We See in Industry

- Professionals come from multiple backgrounds
 - Transferable skills matter more than titles
 - Learning clinical domain knowledge is the key step

IT / Software

Biostatistics / Math

Life Sciences Graduates

Other STEM Fields

What Makes Transitions Successful?

- Strong analytical thinking
- Hands-on practice with real datasets
- Mentorship and guidance
- Curiosity and persistence

How the Role Is Evolving

- SAS remains essential for regulatory work
- R increasingly used in analysis and reporting
- Python widely used for automation and data workflows
- AI/ML beginning to influence trials

AI and ML in Clinical Trials – Reality vs Hype

- Improving recruitment and forecasting
- Data quality monitoring and anomaly detection
- Exploratory and biomarker analysis

What Hiring Managers Actually Look For

- Understanding CSIC SDTM and ADaM concepts
- Ability to explain dataset derivations
- TLF logic and structure
- Clear thinking and communication

Fundamentals Over Buzzwords

- Depth matters more than tool lists
- Practical examples impress more than terminology
- Clear reasoning stands out in interviews

Building the Right Skill Stack

- Programming skills (SAS, R, Python)
- Clinical trial and CDISC knowledge
- Data analysis and visualization
- Communication and documentation



Certifications That Help

- SAS certifications
- R and data science programs
- Python and analytics certifications
- Workshops and industry training

The Power of Mentorship

- Accelerates learning
- Provides real-world context
- Helps avoid common mistakes

Preparing for Interviews

- Practice real scenarios
- Understand datasets and TLFs
- Be ready to explain decisions

Where Many People Get Their First Opportunity

- CROs and biometrics service providers
- Projects across multiple studies
- Exposure to different therapeutic areas

Future of Statistical Programming

- Hybrid roles becoming standard
- Automation and reproducible workflows growing
- Greater collaboration with data science

Key Takeaways

- There is no single career path
- Fundamentals matter most
- Continuous learning is essential
- Opportunities in this field continue to grow

Questions and discussion



Thank You

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