Technical Interview Prep for Python Engineer (AI) - Cavista

1. Python Core Concepts

- Data Structures: Be comfortable using lists, dictionaries, tuples, and sets.

- Memory Management: Python uses reference counting and garbage collection.

- Shallow vs Deep Copy: Shallow copies reference inner objects; deep copies recursively copy all.

- List Comprehensions: Faster than loops, useful for clean data manipulation.

- OOP in Python: Classes, inheritance, encapsulation, magic methods (__init__, __str__, etc.).

2. AI/ML Using Python

- Libraries to Know: NumPy, Pandas, Scikit-learn, TensorFlow or PyTorch.

- Model Building: Know basic pipelines, model evaluation (accuracy, precision, recall).

- NLP: Tokenization, embeddings, transformers (e.g. HuggingFace).

- Projects: Be ready to explain AI projects and how your code improved results.

3. API & Database Skills

- REST APIs: Understand routes, methods (GET, POST), status codes.

- FastAPI/Flask: Be able to build or explain basic APIs.

- SQL: SELECT, JOIN, WHERE, GROUP BY queries.

- NoSQL: Understand document structure in MongoDB or similar.

4. Behavioral Questions

- Tell me about yourself.

- Why do you want to work at Cavista?

- Describe a time you had a conflict and how you resolved it.

- How do you stay up-to-date with new technologies?

5. Final Interview Tips

- Test your internet, audio, and Teams setup in advance.

- Be ready to screen-share and code live.

- Show confidence, ask clarifying questions when needed.

- Follow up after the interview with a thank-you email.