

24 Dec 2025

PYDANTIC

Problem Solved by Pydantic in python:

1. By default python not have type validation this problem is solved by pydantic
2. By default python not have ~~type~~ validation this problem is solved by pydantic

Pydantic works in 3 steps:

1. Define a pydantic model that represents the ideal schema of the data
 - This includes the expected fields, their types and any validation constraints (e.g., `gt=0` for positive numbers).
 2. Instantiate the model with raw input data (usually a dictionary or JSON-like structure).
 - pydantic will automatically validate the data and coerce it into correct python types (if possible).
 - if data doesn't meet the model's requirements pydantic raise a `ValidationError`.
 3. Pass the validated model object to functions or use it throughout your codebase.
 - This ensures that every part of your program works with clean, type-safe, and logically valid data.
1. Why pydantic
- Solve the type validation in python
 - Solve the data validation in python

2. How Pydantic

(i) Type validation in pydantic

- use the BaseModel

- use List, Dict and optional in pydantic

(ii) Data Validation in pydantic

- use EmailStr and AnyUrl (Built-in data validation in ~~pydantic~~)
 - custom data validation using Field
- field function is for custom data validation, attached meta data (Field + Annotated) and for set default values