

# Poly Regression

Module:

```
deeprai.models.regression.poly_regression
```

---

Class: `PolyRegression`

A class representation of the polynomial regression model.

---

1. Initializer: `__init__(self)`

Description:

Initializes the `PolyRegression` class.

Attributes:

- **fitted\_vals** (`list`): A list to store the results after the model has been fitted. These values represent the coefficients of the polynomial equation.

Example:

```
from deeprai.models.regression import PolyRegression

model = PolyRegression()
```

---

2. Method: `fit(self, x_vals, y_vals)`

Description:

Fit the model to the given `x_vals` and `y_vals` using polynomial regression.

## Parameters:

- **x\_vals** (`list` or `np.ndarray`): The input values or features.
- **y\_vals** (`list` or `np.ndarray`): The output values or labels.

## Returns:

- `list`: Coefficients of the polynomial equation, starting from the coefficient of the highest degree term.

## Example:

```
model.fit(x_vals=[1, 2, 3], y_vals=[2, 5, 10])
```

---

## 3. Method: `run(self, x_val)`

### Description:

Use the previously fitted model to predict the output for a given `x_val` based on the polynomial equation.

### Parameters:

- **x\_val** (`float`): The input value for which the prediction is desired.

### Returns:

- `float`: Predicted value based on the polynomial regression equation.

## Example:

```
predicted_val = model.run(4)
print(predicted_val)
```

---

Revision #1

Created 6 September 2023 13:22:47 by Kieran Carter

Updated 6 September 2023 13:28:54 by Kieran Carter