



AI/ML for Students

An AI/ML course for students up to grade 12



What the course will cover

- Python programming
- AI/ML concepts
- Mathematics and Statistics techniques used in ML
- Selected ML platforms
- Python core packages for ML
- Data processing for ML
- Data visualizations
- Building and running standard AI/ML models



What to expect at the end of the course

- The student will be able to
 - Write Python programs.
 - Download and run models from popular web resources like GitHub, ML Contests, and Kaggle, among others.
 - Download models and retrain them.
 - Identify categories of problems and apply the right models to solve them.
 - Create a solution pipeline and implement it.
 - Understand how AI/ML works.



Limitations of the course

- As it is a short-duration course, it won't cover all AI/ML concepts in detail.
- Though we will make sure that the students are able to understand, code, and run AI/ML models, the in-depth coverage of them will be beyond the scope of this course.
- Designed for students, the focus will remain on the mathematics behind making AI/ML work. Programming, though covered fully, won't be our prime objective.



Mathematics of AI/ML

- Linear Algebra
- Analytic Geometry
- Matrices
- Vectors
- Probability
- Statistics and Distributions
- Continuous Optimization
- Linear Regression
- Principal Component Analysis
- Density Estimation
- Support Vector Machines



Machine Learning Techniques/Models

- scikit-learn
- TensorFlow
- PyTorch
- Classification models
- Regression models
- Deep learning models



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You can also visit our website at <http://www.xcelvations.com/> for more information.

