



OppenFynn Innovation Labs[®]



Certification Course on Data Science

Topics Covered

- **Basics of Data Science**

- **Visualizing Data**, matplotlib, Bar Charts, Line Charts, Scatterplots, **Linear Algebra**, Vectors,
- Matrices, **Statistics**, Distribution, The Central Limit Theorem.
- Correlational Caveats, Correlation and Causation, **Probability**, Dependence and Independence,

- **Hypothesis and Statistical Inference**

- Statistical Hypothesis Testing, Example: Flipping a Coin, p-Values, Confidence Intervals, p-Hacking, Example: Running an A/B Test, Bayesian Inference, **Gradient Descent**, The Idea Behind Gradient Descent Estimating the Gradient, Using the Gradient, Choosing the Right Step Size, Using Gradient Descent to Fit Models, Minibatch and Stochastic Gradient Descent,
- **Working with Data**, Using the Twitter APIs, Exploring Your Data, Using NamedTuples, Dataclasses, Cleaning and Munging, Manipulating Data, Rescaling, Dimensionality Reduction

- **Machine Learning**

- Over fitting and Underfitting, Correctness, The Bias-Variance Tradeoff, Feature Extraction and Selection, **k-Nearest Neighbors**, The Model, Example: The Iris Dataset, The Curse of Dimensionality,
- **Naive Bayes**, A Really Dumb Spam Filter, A More Sophisticated Spam Filter, Implementation, Testing Our Model, Using Our Model,
- **Simple Linear Regression**, The Model, Using Gradient Descent, Maximum Likelihood Estimation, **Multiple Regression**, The Model, Further Assumptions of the Least Squares Model, Fitting the Model, Interpreting the Model, Goodness of Fit, Digression: The Bootstrap, Standard Errors of Regression Coefficients, Regularization, **Logistic Regression**, The Problem, The Logistic Function, Applying the Model, Goodness of Fit, Support Vector Machines

- **Decision Trees**

- Entropy, Creating a DecisionTree, Putting It All Together, Random Forests, **Neural Networks**, Perceptrons, Feed-Forward Neural Networks, Backpropagation, Example: Fizz Buzz,

Topics Covered Cont.

- **Deep Learning**

- The Tensor, The Layer Abstraction, The Linear Layer, Neural Networks as a Sequence of Layers, Loss and Optimization, Example: XOR Revisited, Other Activation Functions, Example: FizzBuzz Revisited, Softmaxes and Cross-Entropy, Dropout, Example: MNIST, Saving and Loading Models, **Clustering**, The Idea, The Model, Example: Meetups, Choosing k , Example: Clustering Colors, Bottom-Up Hierarchical Clustering.

- **Natural Language Processing,**

- Word Clouds, n-Gram Language Models, Grammars, An Aside: Gibbs Sampling, Topic Modeling, Word Vectors, Recurrent Neural Networks, Example: Using a Character- Level RNN,

- **Network Analysis,** Betweenness Centrality, Eigenvector Centrality, Directed Graphs and PageRank, **Recommender Systems,** -Based

- Collaborative Filtering, Item-Based Collaborative Filtering, Matrix Factorization



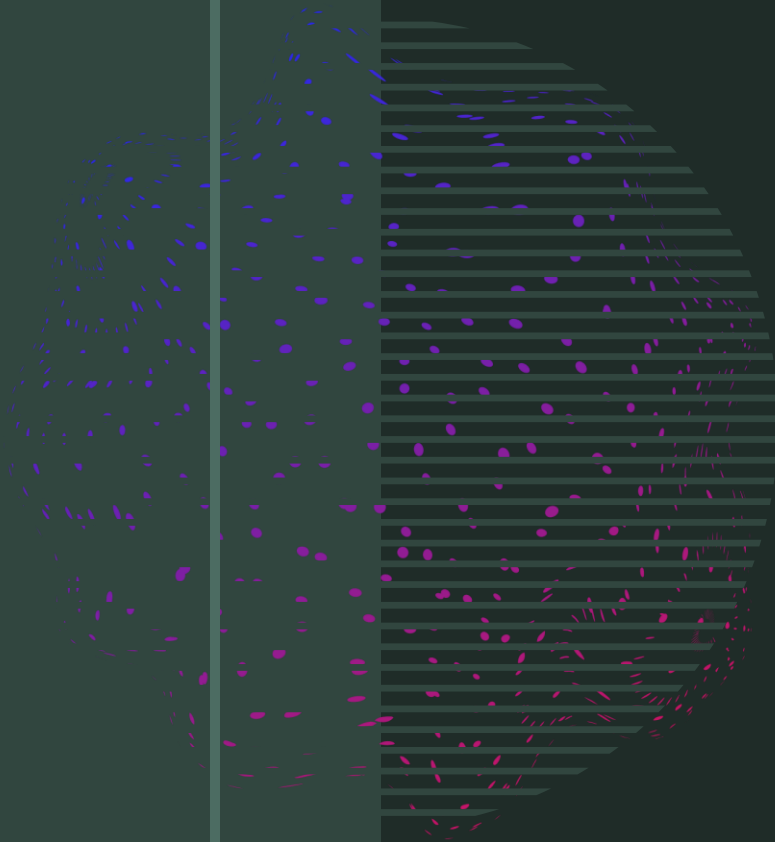
About us

M/S **OpenFynn Innovation Labs** is an start up registered as a Partnership firm , in Bangalore , Karnataka

Promotors are from prestigious Institutons such as IISc, Bangalore, IIM-Kashipur, IIT-Roorkee

OpenFynn Innovation Lab has ateam of skilled professionals, graduated from premier institutions having vast experience in academia , research and industry and working with new age technologies such as Artificial Intelligence, Machine Learning, Deep Learning, Quantum computing, Quantum Photonics. We believe in empowering youth to be future technocrats by providing state of art, world class educational e-learning services covering fundamental and practical aspects at affordable prices.

Course benefits



This course will enable students to:

- Determine the appropriate natural language processing, machine learning and deep learning models to solve the business-related challenges.
- Indicate proficiency with statistical analysis of data to derive insight from results and
- Interpret the data findings visually.
- Demonstrate skills in data management by obtaining, cleaning and transforming the data.
- Discuss how social networks appraise the ways in which the social clustering shape individuals and groups in contemporary society.

- Class Schedule: 4 Hours a week: Online live classes with recordings access for 1 year.
 - Cost: 12,000 + 18% GST = 14,160 /- INR
 - Offline Mode can be arranged based on specific request
 - Hands on session: Python Programming Language
 - Terms of Payment.
 - Full amount to be paid at the beginning of the course and no partial payment will be entertained. Course will be confirmed through confirmation mail on receipt of full payment.
 - In case the candidate wants to discontinue the course , the same has to informed within one week of commencement of course. In such cases 40% of course fee paid by the candidate will be refunded excluding taxes.
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- Payment details

OPPENFYNN INNOVATION LABS (GSTIN: 29AAHFO2616F1ZB)

Bank: IDBI Bank, Yelahanka Branch, Bangalore

Current Account No: 0694102000014076

IFSC Code: IBKL0000694

or

G pay to +918971876135



OppenFynn Innovation Labs®

THE TEAM



Dr. Arjun Shetty

B.Tech(MIT Manipal), M.Tech(IIT Hyderabad), PhD(IISc Bangalore), PostDoc(Institute for Quantum Computing Canada)



Dr. Narayan K

B.E, M.Tech(MIT Manipal), MBA (IIM), PhD(IISc Bangalore)



Divya Shree.S

B.E, M.Tech, Certified AI and Deep Learning Engineer(IIT Roorkee)



Tools we cover





THANK YOU!

-  *OppenFynn Innovation Labs*
-  contact@oppenfynn.org
-  +91 95138 87860, 08048148417
-  <https://www.oppenfynninnovationlabs.com/>
-  <https://www.oppenfynn.org/>

