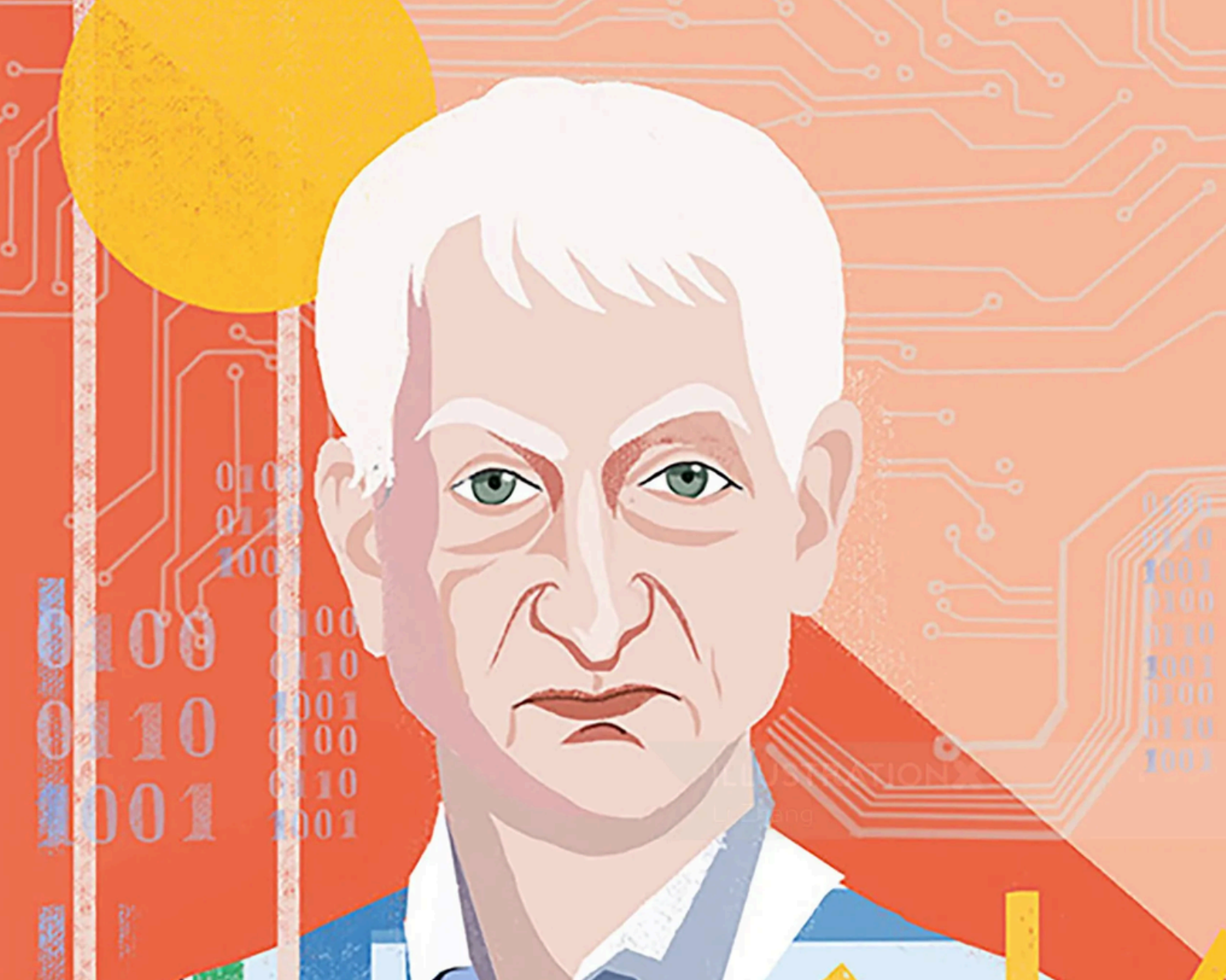




AI Olympiad Program

Cheenta Academy for Olympiad & Research

Eligibility: Class 8 and above

cheenta.com

Since 2010

Passion for Mathematical Science & Research

This program is useful for AI Olympiads
(INAIO, USA-NA-AIO)

Success Stories Since 2010



Aryan Kalia

Top 1% globally in American Math Competition,

Attended Math Olympiad Program and School Research Program at cheenta

Attended Student internship program at cheenta

Harvard University in 2022



Sambuddha Majumdar

Scotland Math Olympiad Awardee

Attended Math Olympiad Program at cheenta

Attended Student internship program at cheenta

University of Edinburgh



Anushka Aggarwal

Youngest Indian National Math Olympiad awardee, European Girls Math Olympiad awardee

Attended Math Olympiad Program at cheenta

Attended Student internship program at cheenta

MIT (Massachusetts Institute of Technology) in 2022



Akshaj Kadaveru

American Math Competition, AIME and USAJMO awardee

Attended Math Olympiad Program at cheenta

MIT (Massachusetts Institute of Technology)

Curriculum

39 lessons, 7 modules

Module 1



Data and Algorithms Foundations)

8 Lessons



Computational and Logical Thinking



Algebraic and Counting Foundations



Combinatorics and Recurrence



Data Processing and Visualization



Algorithms and Pseudocode in Python



Markdown and Latex programming



Python programming and basics



Array programming (Numpy, Pandas)

Curriculum

61 lessons, 9 modules

Module 2



Mathematical Foundations

6 Lessons



Linear Algebra



Calculus



Probability



Statistics



Optimization



Rule Based Algorithms (PageRank, TF-IDF Ranking, EigenFace, etc)

Module 3



ML Foundations

7 Lessons



Learning Fundamentals



Training Algorithms



Evaluation Metrics



Linear Regression



Logistic Regression



K Means Clustering



Introduction to scikit-learn

Module 4



Supervised ML Algorithms

6 Lessons



Decision trees



K-Nearest Neighbors (K-NN)



Support vector machine



Linear Models, and Perceptron



Multilayer Perceptron



Naive Bayes Classifier

Module 5



Unsupervised ML Algorithms

5 Lessons



K-Means Clustering



Principal Component Analysis (PCA)



Hierarchical Clustering



Density-Based Clustering



Anomaly Detection

Module 6



Neural Networks and Deep Learning

7 Lessons



Neural networks Fundamentals



Shallow and Deep NN



Loss Functions and Regularization



Forward and Back Propagation (with Derivations)



Training deep networks in PyTorch



Convolutional Neural Networks



Sequence Models (RNN and Transformers)

Module 7



Machine Learning Model Tuning

4 Lessons



Model Training and Tuning



End-to-end ML pipelines



Case studies (real datasets)



Full AI Olympiad mock tests + projects

Taught by Olympians and Researchers from leading universities

Since 2010 Cheenta has evolved into a Gurukul. Our students are in leading universities in India such as Indian Statistical Institute, Chennai Mathematical Institute, TIFR, IITs and universities abroad such as Harvard, MIT, Oxford, Edinburgh to name a few. Some of them returned as teachers for the next generation of learners. And the pursuit of excellence continues.



Cheenta Team has 40+ members. Here are some of the leaders.



Srijit Mukherjee

Doctoral Scholar at
Pennsylvania State
University, BStat and
MStat from Indian
Statistical Institute (India)
Director at Cheenta



Dr. Ashani Dasgupta

PhD from University of
Wisconsin-Milwaukee (USA)
Founder - Director at
Cheenta



Dr. Anirban Majumdar

PhD from ENS Paris-Saclay,
France on Theoretical
Computer Science, B.Sc.-
M.Sc. from Chennai
Mathematical Institute



Swarnabja Bhowmick

B.Tech in Computer Science from the
University of Calcutta. IEEE Publications.
Faculty of Mathematics and Computer
Science at Cheenta.



Dr. Sankhadip Chakraborty

PhD from IMPA, BSc. Math
from Chennai Mathematical
Institute (India),
Director at Cheenta

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