

The ML test is also over google hangout. A lot of it is talking and explaining algorithms and conceptual questions. You might be asked to explain an algorithm, or look at a graph and explain what it demonstrates. Or to explain concepts like the bias variance tradeoff or the curse of dimensionality.

Here's our week by week curriculum if you want to get a sense of the topics we cover:

Week 1: Exploratory Data Analysis and Software Engineering Best Practices
Week 2: Statistical Inference, Bayesian Methods, A/B Testing, Multi-Armed Bandit
Week 3: Linear & Logistic Regression, Regularization, Cross Validation, Gradient Descent
Week 4: Supervised Machine Learning: SVMs, Decision Trees, Bagging, Boosting
Week 5: Natural Language Processing, Clustering
Week 6: Dimensionality Reduction, Topic Modeling, Recommenders, Matrix Factorization, Time Series
Week 7: Network Analysis, AWS, MapReduce, Spark
Week 8: Data Products, Data Visualization, Fraud Detection Case Study
Weeks 9-11: Capstone Projects, Hiring Day
Week 12: Review, Interview Prep, Mock Interviews

We don't expect instructors to be a master in all areas of the curriculum, but they should have a strong foundation and areas within the curriculum that are their strength. Probably most important topics are week 2 statistics topics and all the ML algorithms (Linear & Logistic Regression, SVMs, Decision Trees, Random Forests, Boosting, Clustering, PCA).

This online course is the best I've found:

<http://www.dataschool.io/15-hours-of-expert-machine-learning-videos/>

We use their textbook a lot, so that's a good thing to review:

<http://www-bcf.usc.edu/~gareth/ISL/ISLR%20Sixth%20Printing.pdf>

I would also point him (and any other candidates) to the StatLearning online course that goes with the book.

<http://statlearning.class.stanford.edu/>