Congratulations! You've completed Week 3 Start Week 5

THIS WEEK'S FORUM

Week 3

Discuss and ask questions about Week 3.

Go to forum

Logistic Regression

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Welcome to week 3! This week, we'll be covering logistic regression. Logistic regression is a method for classifying data into discrete outcomes. For example, we might use logistic regression to classify an email as spam or not spam. In this module, we introduce the notion of classification, the cost function for logistic regression, and the application of logistic regression to multi-class classification.

We are also covering regularization. Machine learning models need to generalize well to new examples that the model has not seen in practice. We'll introduce regularization, which helps prevent models from overfitting the training data.

As always, if you get stuck on the quiz and programming assignment, you should post on the Discussions to ask for help. (And if you finish early, I hope you'll go there to help your fellow classmates as well.)

Less

Classification and Representation

Video: Classification 8 min

Reading: Classification 2 min

Video: Hypothesis Representation 7 min

Reading: Hypothesis Representation 3 min

- **Video:** Decision Boundary 14 min
- **Reading:** Decision Boundary 3 min

Logistic Regression Model

- **Video:** Cost Function 10 min
- **Reading:** Cost Function 3 min
- **Video:** Simplified Cost Function and Gradient Descent 10 min
- **Reading:** Simplified Cost Function and Gradient Descent 3 min
- **Video:** Advanced Optimization 14 min
- **Reading:** Advanced Optimization 3 min

Multiclass Classification

- **Video:** Multiclass Classification: One-vs-all 6 min
- **Reading:** Multiclass Classification: One-vs-all 3 min

Review

- **Reading:** Lecture Slides 10 min
- **Quiz:** Logistic Regression 5 questions

Regularization

Machine learning models need to generalize well to new examples that the model has not seen in practice. In this module, we introduce regularization, which helps prevent models from overfitting the training data.

Solving the Problem of Overfitting

- **Video:** The Problem of Overfitting 9 min
- **Reading:** The Problem of Overfitting 3 min
- **Video:** Cost Function 10 min
- **Reading:** Cost Function 3 min
- **Video:** Regularized Linear Regression 10 min
- **Reading:** Regularized Linear Regression 3 min
- **Video:** Regularized Logistic Regression 8 min
- **Reading:** Regularized Logistic Regression 3 min

Review

- **Reading:** Lecture Slides 10 min
- **Quiz:** Regularization 5 questions
- **Programming Assignment:** Logistic Regression 3h