



## Architecting for Machine Learning on AWS Competition

You've analyzed your data set, written your code, trained your ML model, and you want to take it over the finish line to land AWS credits! This guide walks you through what you need to do.

### Competition Outline

We have seven \$250 AWS credits to give away. We will be awarding one winner in each of the following categories:

1. Fraud detection
2. Computer vision
3. Natural language processing
4. Forecasting
5. Recommendation
6. Predictive maintenance
7. Other - Marketplace, DeepComposer, flight delays, bring-your-own, etc.

We'll look at your work across four major areas:

1. **Problem Domain** – Across banking fraud, product reviews, faulty engines, satellite imagery, or another category, did you demonstrate knowledge of this area and go above and beyond what was listed in your project writeup? Did you grapple with the actual challenges this area faces? Did you consider the impact of your model in this domain? Did you produce graphs and histograms to understand this clearly?
2. **Machine Learning Theory** – Did you correctly understand the basic meaning of classification, regression, and the ML model you selected? Did you understand how to evaluate that model correctly? Did you achieve good results in your model? Did you connect your model to the broader research literature exploring it? Did you demonstrate scientific and mathematical rigor and depth in your solution?
3. **Software Engineering** – Is your code readable and reusable? Does it run? Did you hard-code everything, or did you make it modular? Did you wrap your content in functions? Did you build a utils package to make your notebook more readable? Did you add a few unit tests to make sure your data structures are what you were expecting?
4. **AWS Usage** – Did you consider the right instance type and size? Are you running on SageMaker in the most optimal manner (ex: script mode, distributed training, spot instances, hyperparameter tuning)? Did you store your data in S3? Did you integrate any additional AWS

services into your solution? Did you modify any of the execution role settings to get yourself access to those services? (Hint, that's a good thing)

	Problem Domain	Machine Learning Theory	Software Engineering	AWS Usage
0 - Not knowledgeable				
1 - Introductory				
2 - Some familiarity				
5 - Expert				

## FAQ's

1. **What are the participation requirements?** The good news is that we have 7 awards which can only be applied to a single AWS account. If you want to participate in the competition, you need to work by yourself.
2. **Do I need to submit something?** It isn't a requirement to participate. Feel free to submit your project if you want to be considered in the competition.
3. **What should I submit to participate in the competition?** At this point in time, that's up to you. You can send in your Python notebook alone or you can send in a write-up with details about the content and snippets of what you developed. You can even create a slide deck or short video! How you present this is up to you. You should play to your strengths, submitting something that makes your project look its absolute best.
4. **What do I need to make sure is in my submission?** Please say the type of project such as vision, forecasting, fraud detection, etc. Please tell us the names of the people working with you and details about what you did and how it went.
5. **What do I need to make sure is *not* in my submission?** Please do not share any sensitive details in your project. We will be showing the winning solutions to all workshop attendees through GoToWebinar.
6. **When do I need to make my submission?** Submissions are due at 3pm PST on the Day 2.
7. **Who do I give my submission to?** Please provide these to AWS SA's in your Chime group.
8. **How many winners will there be?** We'll have 7 winners, one per category. Each will take home \$250 in AWS credits. Winners will receive credits via email post event.
9. **When will I find out who won?** Winners will be announced at 4pm PST through GoToWebinar. Please join us back in GoToWebinar at 4pm PST sharp.
10. **Can I take my work products home with me?** Yes! You can and should.