Day 2 – Calgary Airlift

# Resources

**Sessions from Build 2019**:

* [From Zero to AI Hero: AutoML](https://mybuild.techcommunity.microsoft.com/sessions/76975)
* [Open Neural Network Exchange (ONNX) in the Enterprise](https://mybuild.techcommunity.microsoft.com/sessions/76978?source=sessions)
* [Tips and Tricks to Get Productive with Azure ML Service](https://mybuild.techcommunity.microsoft.com/sessions/77324?source=sessions)
* [Welcome to the world of Machine Learning with ML.NET 1.0](https://mybuild.techcommunity.microsoft.com/sessions/76977)
* [MLOps: How to Bring Your Data Science to Production](https://mybuild.techcommunity.microsoft.com/sessions/77313?source=sessions)
* [Managing your ML Lifecycle with Azure Databricks](https://mybuild.techcommunity.microsoft.com/sessions/76976?source=sessions)
* [Want to \*actually\* do machine learning? Wrangle data, build models, and deploy them with Azure Machine Learning](https://mybuild.techcommunity.microsoft.com/sessions/76974?source=sessions)
* [Breaking the wall between Data Scientists and App Developers with MLOps](https://mybuild.techcommunity.microsoft.com/sessions/76973?source=sessions)
* [How to Build Enterprise-Ready ML Models: Privacy and Security](https://mybuild.techcommunity.microsoft.com/sessions/76979?source=sessions)
* [Build ‘Zero-Code’ ML Models with Visual Workflows in Azure Machine Learning](https://mybuild.techcommunity.microsoft.com/sessions/76972)

**Documentation – Azure Machine Learning**

* [Azure Machine Learning Service Documentation](https://docs.microsoft.com/en-us/azure/machine-learning/service/)
* [Machine Learning Algorithm Cheat Sheet](https://docs.microsoft.com/en-us/azure/machine-learning/studio/algorithm-cheat-sheet#download-machine-learning-algorithm-cheat-sheet)
* [Automated ML](https://docs.microsoft.com/en-us/azure/machine-learning/service/concept-automated-ml)
  + [Configure Automated ML in Python](https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-configure-auto-train)
  + [Create and train an ML model using Automated ML in the Azure portal](https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-create-portal-experiments)
* [Where and how to deploy your ML models](https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-deploy-and-where)
* Monitor your deployed web services -> To ensure your model is performing as desired, ie. Model data drifts as production data enters your model, make better decisions on when to retrain/optimize your model, and retrain your model with the data collected. You can use either of these methods within an ML pipeline.
  + [Collect & evaluate model data](https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-enable-data-collection): Learn how to collect input model data from the AML service you’ve deployed into an Azure Kubernetes Cluster (AKS) into Azure Blob storage.
  + [Monitor your AML models with Application Insights](https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-enable-app-insights): It is possible to configure this through the SDK or through the Azure portal.
* [Create a Machine Learning Pipeline using the AML SDK](https://docs.microsoft.com/en-us/azure/machine-learning/service/how-to-create-your-first-pipeline)
* [Incorporate CI/CD with Azure Pipelines integration](https://docs.microsoft.com/en-us/azure/devops/pipelines/targets/azure-machine-learning?view=azure-devops)
* [Visual Interface in Azure Machine Learning Overview](https://azure.microsoft.com/en-ca/blog/new-azure-machine-learning-updates-simplify-and-accelerate-the-ml-lifecycle/)
  + Tutorial Part 1: [Prepare and visualize data in the AML Visual Interface](https://docs.microsoft.com/en-us/azure/machine-learning/service/ui-quickstart-run-experiment)
  + Tutorial Part 2: [Predict automobile price & deploy an ML model with the AML Visual Interface](https://docs.microsoft.com/en-us/azure/machine-learning/service/ui-tutorial-automobile-price-train-score)

**Documentation – Azure Databricks**

* [How to Use AutoML in Azure Databricks GitHub Repo](https://github.com/Azure/MachineLearningNotebooks/tree/master/how-to-use-azureml/azure-databricks)
* [Overview of Machine Learning capabilities in Azure Databricks](https://docs.azuredatabricks.net/spark/latest/mllib/index.html)
* [Apache Spark Documentation](https://spark.apache.org/documentation.html)
* [Mount Blob Storage containers with DBFS (Databricks File System)](https://docs.azuredatabricks.net/spark/latest/data-sources/azure/azure-storage.html#mount-azure-blob-storage-containers-with-dbfs)
* [Explanation of Spark](https://www.infoworld.com/article/3236869/what-is-apache-spark-the-big-data-analytics-platform-explained.html)
* [A Tale of Three Apache Spark APIs: RDDs vs. DataFrames vs. Datasets](https://databricks.com/blog/2016/07/14/a-tale-of-three-apache-spark-apis-rdds-dataframes-and-datasets.html)
* [Azure Databricks Academy](https://academy.databricks.com/)
  + Explore public training, self-paced training, certifications, and private corporate training options

**Other Resources:**

* [GitHub Repo](https://github.com/buildaidemos/demos) highlighting all AI demos from Build 2019
* [Azure Open Datasets](https://azure.microsoft.com/en-ca/services/open-datasets/): Looking to start testing out some ML capabilities, but aren’t sure what data to use? Check out the Azure Open Datasets catalog to help you get started.
* [ML.NET GitHub Repo for Machine Learning](https://github.com/dotnet/machinelearning-samples)
* [MLOps GitHub Repo](https://github.com/Microsoft/MLOps)
  + [MLOps\_VideoAnomalyDetection GitHub Repo](https://github.com/microsoft/MLOps_VideoAnomalyDetection)
* [Blog Post on Decision Trees](https://medium.com/deep-math-machine-learning-ai/chapter-4-decision-trees-algorithms-b93975f7a1f1)
* [Blog Post on Random Forests](https://towardsdatascience.com/the-random-forest-algorithm-d457d499ffcd)
* [Blog Post on Logistic Regression](https://towardsdatascience.com/introduction-to-logistic-regression-66248243c148)
* [Blog Post on One-Hot Encoding (feature engineering)](https://hackernoon.com/what-is-one-hot-encoding-why-and-when-do-you-have-to-use-it-e3c6186d008f)
* Provide feedback on how Azure Machine Learning can be improved! <https://aka.ms/aml-feedback>