Solution Approach	Time to Development	Time to Train	Inference Throughput	O16N Complexity	Overall Solution	Solution Details	Other Considerations
Use Cognitive Services (customvision.ai)	LOW	LOW	HIGH	LOW	SIMPLE	• Create model using customvision.ai with General Compact (compact) • Train the Model • Export the model (CoreML, TensorFlow) • Use the Android/iOS template app to use the model See Demo Sign Language Recognition App	• Limited training data and tags today as its in Preview • Limited flexibility around pre-processing training dataset. Images need to be within specific size & angle. • Limited flexibility around DevOps
Build Custom Model using Transfer Learning (ResNet CNN) or Custom Vision Package **(keras, tensorflow, cntk, aml, k8s, batchai, etc.)**	MEDIUM	MEDIUM - HIGH	MEDIUM – LOW	HIGH	COMPLEX	• Setup data pipeline to upload images to Azure Blob Storage • Create a CNN model starting with ResNet using AML Workbench • Train model using remote compute (CPU/GPU) on larger datasets in Blob Storage • Use AML Model Management to deploy & publish Model API *and/or* • Export the model using libraries like pickle and use it on the edge ?? See Transfer Learning Demo App See Running Tensorflow models at scale with Kubernetes See AML Workbench with BatchAI Sample	• Custom Vision Package is in preview. • ResNet CNN is good for general object detection but may not a good fit for the model • Full DevOps support • Requires infrastructure setup & design time
Build Custom Model from scratch **(keras, tensorflow, cntk, aml, k8s, batchai, lightGBM, dash etc.)**	HIGH	MEDIUM - HIGH	MEDIUM - LOW	HIGH	COMPLEX	• Setup data pipeline to upload images to Azure Blob Storage / Managed Disks • Create a custom CNN model from scratch • Train model using remote compute (CPU/GPU) on larger datasets in Blob Storage / Managed Disks • Use frameworks/tools like lightGBM, dask, k8s helm, tfjob etc. to scale training. • Use AML Model Management to deploy & publish Model API and/or • Export the model using libraries like pickle and use it on the edge ?? See DevOps for AI Apps	• CNN models build + hyperparameter tuning can be time consuming • Full DevOps support • Requires infrastructure setup & design time