

Microsoft and Esri Launch Geospatial AI on Azure



Microsoft and Esri will be offering the GeoAI Data Science Virtual Machine (DSVM) as part of their Data Science Virtual Machine/Deep Learning Virtual Machine family of products on Azure. This is a result of a collaboration between the two companies and will bring AI, cloud technology and infrastructure, geospatial analytics and visualisation together to help create more powerful and intelligent applications.

At the heart of the GeoAI Virtual Machine is [ArcGIS Pro](#), Esri's next-gen 64-bit desktop geographic information system (GIS) that provides professional 2D and 3D mapping in an intuitive user interface.

ArcGIS Pro is installed in a [DSVM](#) image from Microsoft. The DSVM is a popular experimentation and modelling environment on Azure that provides a host of AI, machine learning and data science tools. These are all conveniently pre-configured for immediate productivity. The DSVM can run either on CPU-only VM instances on Azure or leverage GPU based VM instances which are particularly useful when training large-scale deep learning models.

The Geo AI Data Science VM extends the AI and data science toolkits in the [Windows Server 2016 edition of the Data Science VM](#) by adding ESRI's ArcGIS Pro and interfaces in both Python and R to help data scientists leverage the spatial data, rich GIS processing, visualisation and analytics in ArcGIS Pro to create better AI applications.

For the geospatial analytics professionals, this product now brings in powerful AI and predictive analytics capabilities including deep learning and machine learning algorithms. Deep learning algorithms are very effective in understanding image/raster data, time-series, and unstructured textual data. The GeoAI Data Science VM also makes it easy to develop for Azure and use big data services like Apache Spark within the VM for analytics. All the tools are pre-installed and pre-configured so that data scientists and geospatial analysts have a ready-to-use environment.

Data scientists and researchers at Microsoft and Esri have been using the GeoAI Data Science VM to automate the analysis of land cover maps in fragile watershed environments using deep learning. For example, it's now possible to use AI to classify land cover at the pixel level in satellite imagery and extract semantic information. Together GIS, AI and the Data Science Virtual Machine are enabling deeper insights that are integrated with geospatial intelligence leading to more accurate predictions and better decision making.

Getting Started with Geo AI DSVM

After clicking on the [product link](#) and answering a few simple questions, you can be up and running in just a few minutes with a fully configured environment.

In addition to the comprehensive ML and deep learning samples, a set of geo-spatial AI examples are provided on the VM, to help you get started. The VM also contains a full end-to-end tutorial on [land use classification at a pixel level](#) using deep learning and Azure GPU instances. They also demonstrate how you can build and deploy such applications on the Azure cloud with all the tools built into the Geo AI Data Science VM.