



Company Description

BeamIO helps users process and manage huge amounts of imagery and other data. Our Algorithm Toolkit (ATK) allows researchers, scientists and engineers chain algorithms together quickly to solve complex problems. Our core focus is enabling the rapid transition of state of the art algorithms from research communities to real industry solutions. The technology we have developed allows groups to turn their solutions into usable tools, which they can then share with others. This allows our customers to solve problems in a fraction of the time and cost of traditional approaches.

We also have a SaaS product, called TileDriver, that helps users store, manage and visualize imagery and geospatial data. TileDriver integrates with algorithm nodes running the ATK to provide a powerful data management tool and content delivery mechanism. The ATK itself can be hosted anywhere: customers can use their own computers, their institutions' compute infrastructure, or we can provide cloud-based hosting that scales with their needs. Researchers can develop entire solutions with nothing but a laptop.

Tutorial Description Short

Performing analysis on the huge amounts of imagery and location data produced by today's UAV systems quickly becomes unmanageable. In this tutorial we show how using the Algorithm Toolkit provides an effective way to extract meaningful information from your largest datasets. Participants will be provided with a ready-made processing chain and will learn how to download, use, and create algorithms with our public registry.

Tutorial Description

For our STRATUS tutorial, BeamIO engineers will provide an overview for using algorithms on UAS data to extract useful information. We will demonstrate how anyone can use our Algorithm Toolkit (ATK) and TileDriver platform to process data and imagery with algorithm chains. We will set up the ATK on a computer from scratch, download a few useful algorithms from our public Registry, and create an example batch processing chain.

A use case will be demonstrated with the following items:

- Introduction to neural networks for use with multi-band imagery
- A 'how-to' for extending the ATK to train and use neural networks
- Example of deploying and running the solution on locally and in the cloud

Participants will be provided with a ready-made processing chain and will learn how to download, use, and create algorithms with the ATK registry.



Instructor Bios:

This tutorial will be led by Chris Willey and Dr. Brent Bartlett of BeamIO.



Mr. Willey has over 20 years of experience in the IT industry helping many organizations realize the potential of technology through a series of senior roles. Mr. Willey was the first Chief Information Officer (CIO) for the Consumer Financial Protection Bureau where he led the creation of the agency's entire technology operation. Mr. Willey has had several other leadership roles including Deputy CIO at the Office of Personnel Management, and Interim CTO for the Government of the District of Columbia where he was named one of the "Top 50 Government CIOs" by InformationWeek. He is a graduate of the Robert H. Smith School of Business at the University of Maryland where he received a Master of Business Administration, and the University of Massachusetts where he earned Bachelor of Arts degrees in English and Comparative Literature.



Dr. Bartlett has over 10 years of expertise working with remote sensing hardware and software systems including both physics and deep learning based algorithms. During his tenure at various research organizations, he has designed and deployed automated processing pipelines that execute complex workflows at scale both on premises and in the cloud. He excels at bringing lessons learned from operational experience to projects of all sizes. Dr. Bartlett received his Ph.D. in Imaging Science from the Rochester Institute of Technology for research performed with the Digital Imaging and Remote Sensing lab.