Cape Henry Associates
Artificial Intelligence (AI) and Machine Learning (ML) Solutions
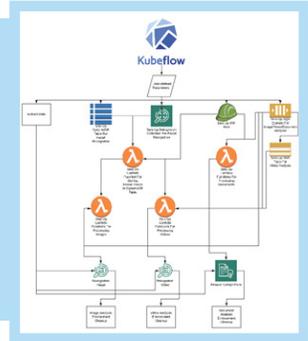
FOGLIFTER

FogLifter

A stand-alone, scalable, secure, and fully dedicated mobile Artificial Intelligence (AI) framework powered by NVIDIA NGC capable of:

- **Rapid ingestion**
- **Powerful analytics**
- **User-configurable filtration of AI Interesting Artifacts (AI/IA)**
- **User free-form investigation of AI/IA**
- **ML experimentation and training**
- **Flexible visualization**

Rapid ingestion

FogLifter can ingest a raw unstructured test dataset of 120GB in minutes. It can be re-created from scratch on a new instance in under 10 minutes. These parameters were used for this example, but ingestion capabilities are scalable beyond 120GB.

Powerful analytics
FogLifter provides a powerful visual display of data classification results.

User-configurable filtration of AI Interesting Artifacts (AI/IA)
User roles can be assigned and findings easily filtered based on user history and desired search parameters.

User free-form investigation of AI/IA
Search capabilities allow for short word searches and full search flexibility.

ML experimentation and training
Resulting data experimentation performed via prototyping.

Flexible visualization
Flexible results provided in user-friendly format. Result data can be easily run and read based on preferred mode of export.

Providing Solutions for

- Government
- Financial Services
- Construction and Development
- Education
- Energy and Utilities

CAPE HENRY ASSOCIATES
EST. 2004
PREPARING OUR ARMED FORCES

The Case

Cape Henry Associates (CHA) utilized the Rapid Innovation Fund (RIF) Program to address the Defense Intelligence Agency (DIA)'s need for fast autonomous sort, search of threats, and exploitation of captured media (FAS2T-RIF1), made obvious in the face of advancing technology. CHA used artificial intelligence (AI), real-time modeling, and exploitation methodologies to close the gaps between limited personnel and time constraints typically found in large-scale processing of media, and provided the DIA with technology outfitted with the latest machine learning (ML) algorithms designed to ingest and process large amounts of data to rapidly provide necessary information.

Goals

- Ability to ingest and process large amounts of data to produce rapidly prototyped models to advance DIA's objectives in data exploitation
- Build and train against large disparate data sources while processing and extracting data necessary for analytical and learning activities

Approach

RIF provides a collaborative vehicle for small businesses to develop and provide innovative technology to customers. With the support of RIF, CHA collaborated with KOVA Global (KOVA) to identify objectives and effect the necessary technology advances to realize the stated goal.

Results

All timelines and deliverables were met. In 18 months, CHA and KOVA built a Minimally Viable Product (MVP) AI and deep learning platform using FogLifter that is cloud agnostic, stand-alone, and cutting-edge.

Image Analysis
- Processed 36,224 images
- Ran 181,120 jobs
- Batches of 1,000 images
- 5 image features
- Results in under 2 hours using 50 calls per second limit quota

Video Analysis
- Processed 223 videos
- Ran 1,165 jobs
- Batches of 20 videos
- 5 video features
- Results in less than 24 hours using 20 concurrent jobs limit quota

Document Analysis
- Processed 100,000+ documents
- Batches of 10 document archives
- 6 document features
- Results in roughly 17 hours using 10 concurrent jobs limit quota

Impact

- CHA's FogLifter mobile AI framework powered by NVIDIA NGC gave DIA the ability to expedite processing of intelligence artifacts, changing the concept of possibility for fast autonomous sort, search of threats, and exploitation of captured media.
- Our nation's warfighters have faster access to highly relevant intelligence through skillfully created, state-of-the-art flexible technology platforms.

About Cape Henry Associates:

Founded in 2004, Cape Henry Associates (CHA) is a Service-Disabled Veteran-Owned Small Business (SDVOSB) specializing in Manpower Analysis, Personnel Analysis, and Training (MPT) services.

Cape Henry Associates is a SeaPort-e prime contract vehicle holder and owns a Small Business Innovation Research (SBIR) technology, Lighthouse, for sole source contracting for MPT products and services. Veterans comprise 58% of our team. With an overall on-time delivery of 99.5% for required deliverables, we take pride in the reputation we have built as the go-to company for all things MPT.

Contact chuck.wythe@cape-henry.com to learn more about a customizable solution for your company.