

RFI Response: NexGen FOIA Tech Showcase, Day #1, topic #4

Topic #4: Artificial Intelligence (AI) tools that may assist with FOIA case processing

Contact and Company Information

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- 2020 was another record-breaking year for Freedom of Information Act (FOIA) requests.
 - This increased demand causes additional burdens on FOIA staff government-wide, and greater difficulty in reducing existing backlogs.
 - Some NARA offices have significant FOIA backlogs particularly when the request is complex and involves a high volume of records.
 - It can take months, or sometimes even years, to respond to some complex requests.
 - It is a lengthy process to search for, collect and review a voluminous number of records which are part of a single request.
 - It is also a cumbersome process to search for and collect records from field facilities or other offices within NARA.
 - NARA also oftentimes needs to consult with another agency before releasing records.
 - The Government is interested in exploring new technologies to allow for greater efficiencies and reducing backlogs.
- Torch.AI™ (Torch) proposes using AI through its Nexus™ platform, which will aid the processing of FOIA requests.
 - Nexus can assist with the initial FOIA data ingestion without the Government purchasing new data storage systems.
 - Nexus can ingest, process, and analyze FOIA data in real time.
 - Nexus can configure APIs to both internal and external data sources, which seamlessly integrate within an existing infrastructure.
 - Nexus is comprised of microservices that easily engage within an existing infrastructure.
 - Nexus provides an open architecture with full transparency--including explainable AI and a Software Bill of Materials (SBOM).
 - Nexus will extract and tag meaningful FOIA information using ML-enhanced techniques.
 - Our optical character recognition (OCR) service extracts text from image files, including PDFs, and provides the text in a normalized form for consumption by downstream processes.

- Our entity extraction services use natural language processing (NLP) to extract entities such as people, organizations, and locations. These services go beyond rules-based or semantics-based logic and leverage machine learning to understand the semantics of how humans communicate. As such, when detecting and extracting the desired content, it is not as susceptible to errors due to misspellings or diminutive nicknames in the text.
- Our technology can identify and replace pronouns with the appropriate nouns.
- Nexus connects and curates data through contextual mapping using ontology models. Ontologies provide context to the information extracted from the input file, such as names, companies, and locations.
- Nexus provides a more holistic view of enterprise data by fusing and enriching the input data with third-party data such as social media data, geographical data, publicly available information (PAI), and Dark Web data.
- Nexus builds a Knowledge Layer that acts as the contextual overlay across the entire data landscape, establishing a clear view of meaningful entities, relationships, and insights while retaining attribution and lineage to the authoritative data for secure, governed, and trusted data discovery.
- Nexus Semantic Stitching is a proprietary data retrieval system which converts business-friendly data requests into optimized technical queries, enabling a “no code” mechanism for data access and discovery. Nexus users and decision-makers can leverage the intelligence within their data without knowledge of SQL queries or programming skills.
- Nexus persists in the client’s database of choice, which enables the creation of dashboards and other visualizations for human consumption.
- Nexus also supports Bring Your Own Model (BYOM) to wrap existing data science artifacts in the MLOps environment, freeing data scientists to focus on innovation rather than mundane model operations and maintenance.
- Nexus deploys via containers like Kubernetes/Docker or via the cloud, as well as via AWS Fargate and virtual machines.
- Nexus embraces technical debt and does not require significant increases in CapEx/OpEs for implementation.
- Nexus does not require you to move your data.
- Nexus does not require you to duplicate your data.
- Nexus uses the authoritative data source – and maintains that source as the authoritative source.
- Nexus has achieved an IL5 ATO with DISA.
- Nexus has realized ~\$40M in revenue from the Department of Defense on similar use cases, validating the technical approach.