



AI & Healthcare Data Innovations

UT System AI Symposium: Lightning Talks

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Agenda

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- Unleashing Impact
 - Fueling AI with Data
 - Accelerate your AI Journey
 - Let's Collaborate!

Unleashing Impact




Customer:
Duke Health

Industry:
Academic Medical Center

Country:
United States

Products and services:
Azure Active Directory
Azure Data Lake
Azure OpenAI
Azure AI Studio
Microsoft Fabric

[Read full story here](#)




“Together, we are poised to propel Duke into the forefront of digitally-f simultaneously studying the reliability and safety of generative AI in h

– Jeffrey Ferranti, M.D., Senior Vice Presid

Situation	Solution
Duke Health is embarking on a five-year, innovative partnership with Microsoft aimed at responsibly and ethically harnessing the potential of generative artificial intelligence (AI) and cloud technology to redefine the health care landscape.	Microsoft will equip Duke with state-of-the-art training to foster a cloud savvy IT workforce and construct a secure cloud environment to simplify and modernize IT operations. In addition, Duke intends to use Microsoft Azure's secure cloud to streamline clinical care, promote health equity, and further advancements in both research and education.

Duke's strategic partnership will usher in a new era of innovation, to include the creation of a Duke Health AI Innovation Lab and Center of Excellence.



Customer:
Canary Speech


Industry:
Health Provider

Size:
Small (1-49 employees)


Country:
United States

Products and services:
Azure
Azure AI Services
Azure AI Speech
Microsoft Fabric
Microsoft Teams
DAX

[Read full story here](#)




Canary Speech can now train new vocal models in as little as two months and handle millions of transactions per month with Azure.



“With Microsoft Azure, we can process conversational speech and return s information to doctors and clinical team members on patient' welfare and

– Henry O'Connor

Situation	Solution
Traditional health tests and biomarkers have their limitations, from collection speed to potential biases. Canary Speech aims to address these challenges and revolutionize patient care with vocal biomarker technology and Microsoft Azure.	The company uses Azure AI infrastructure and other Azure services to process voice samples from conversations between patients and clinicians within seconds, providing actionable real-time information to assess and monitor for early disease detection.



PAIGE

“By realizing the potential of generative AI at unprecedented with our collaboration with Microsoft – is a milestone in window into the microscopic world with extraordinary fidelity accuracy and completely novel capabilities.”

Thomas Fuchs, Dr.Sc., Founding CEO, Paige.AI

Situation	Solution
Paige.AI (Paige) is a leading digital pathology firm that leverages proprietary AI for cancer discovery and treatment. They developed the first Large Foundational Model (LFM) using over one billion images from half a million slides across various cancer types. Paige needed scale and compute support to leverage what had evolved to be a data archive of more than four million digitized microscopy slides so that they could continue to advance their research capabilities.	Paige and Microsoft teamed to build the world's largest image-based AI model for digital pathology and oncology. The new AI model configured with billions of parameters for cancer imaging that is allowing Paige to capture subtle complexities and computational biomarkers that push the boundaries of research. Using Microsoft's advanced supercomputing infrastructure, they are able to share their findings with the healthcare ecosystem faster.

Paige and Microsoft teamed to build the world's largest image-based AI model for digital pathology and oncology.



Customer:
University of Wisconsin-Madison
Mass General Brigham

Industry:
Academic Medical Center

Country:
United States

Products and services:
Azure Active Directory
Azure Data Factory
Azure Data Lake
Azure OpenAI
Azure AI Studio
Azure Model Catalog
Microsoft Fabric
Nuance PowerScribe
Nuance PIN

[Read full story here](#)



MGB Researchers and clinicians will work with Microsoft to advance state-of-the-art multimodal foundation models



“We are excited to collaborate with Microsoft on the development of generative AI in the medical imaging space. Our focus is to bring innovation to patient care in ways that improve outcomes and m

– Scott Reeder, M.D., Ph.D., Chair of Radiology

Situation	Solution
Medical imaging plays a crucial role in healthcare. Faced with challenges that the overall healthcare industry grapples with, including physician burnout and staffing shortages, healthcare organizations are looking to generative AI to help reduce workloads, enhance workflow efficiencies, and improve the accuracy and consistency of medical image analysis for care delivery, clinical trials recruitment and drug discovery.	Researchers and clinicians will work with Microsoft to advance state-of-the-art multimodal foundation models. The organizations will collaborate on the development, testing and validation of the breakthrough technology, direct real-world use cases into clinical workflows including via Nuance PowerScribe radiology reporting platform, and the Nuance Pro Imaging Network.



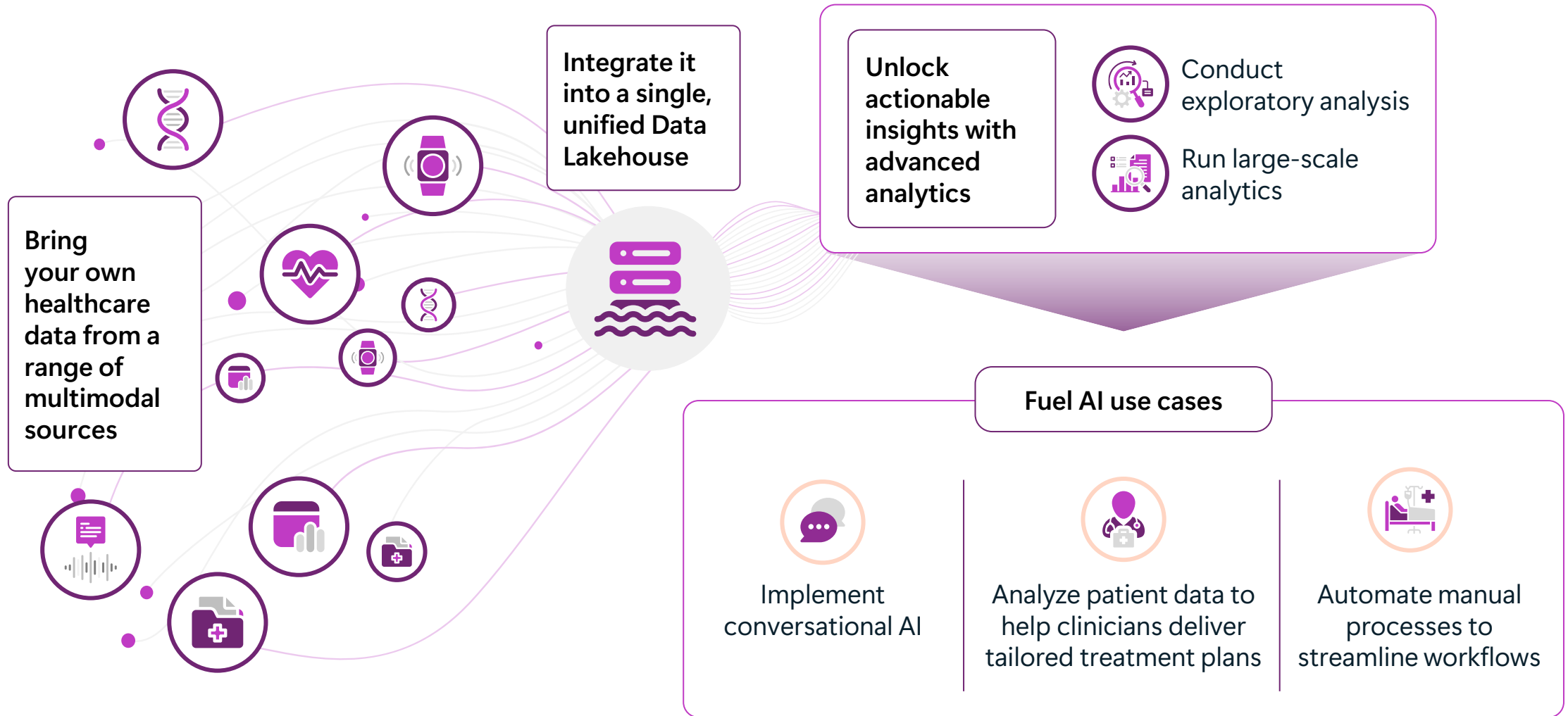
Data is the fuel that powers AI

Healthcare data is fundamentally multimodal

Gain a clearer picture
of patient health

Diagnosis codes

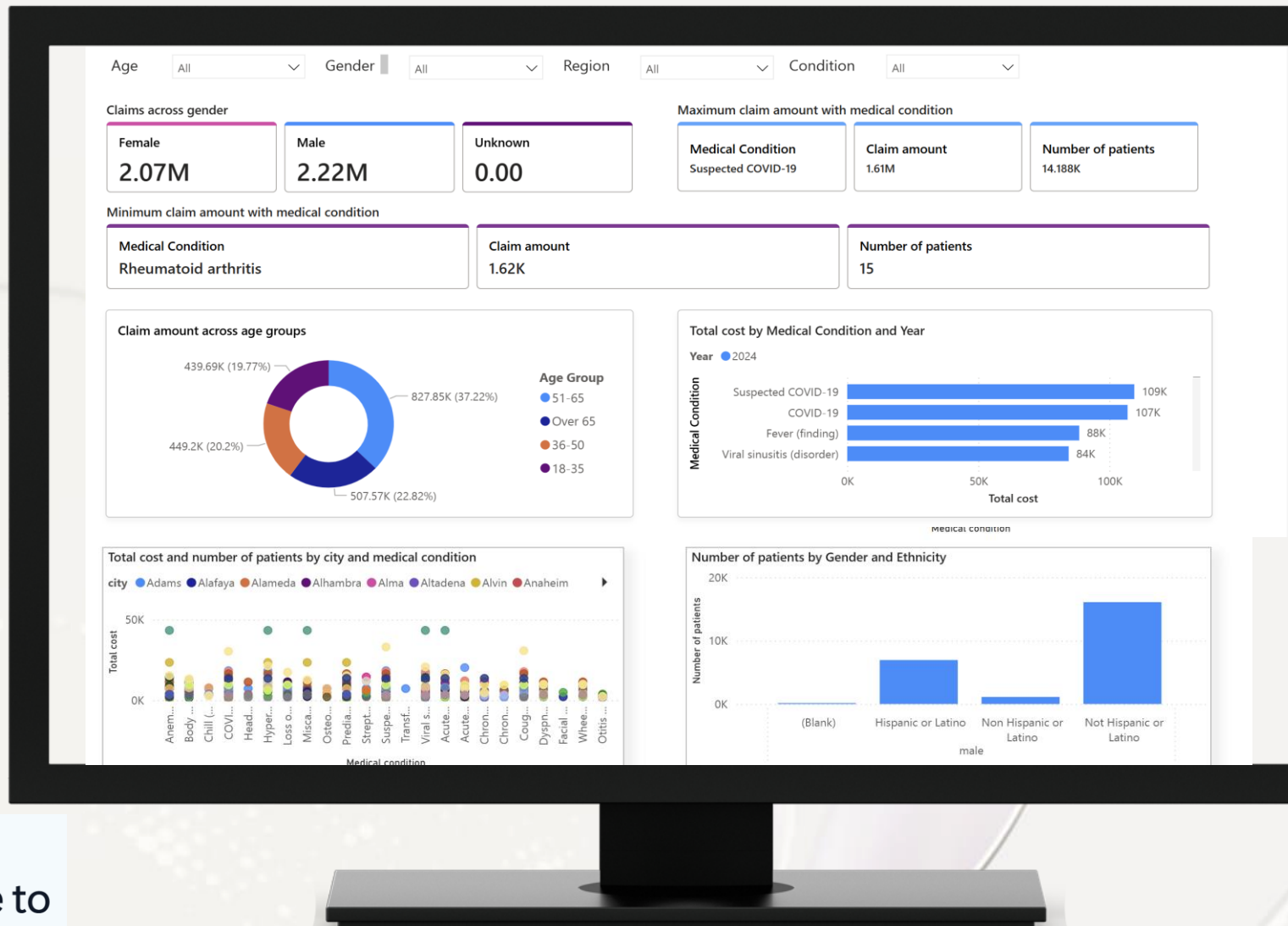
How do we accelerate your AI journey?



Leverage Data as a Strategic Asset



"I need to transform and bring together various datasets for government reporting and improving efficiency." –Head of hospital administration



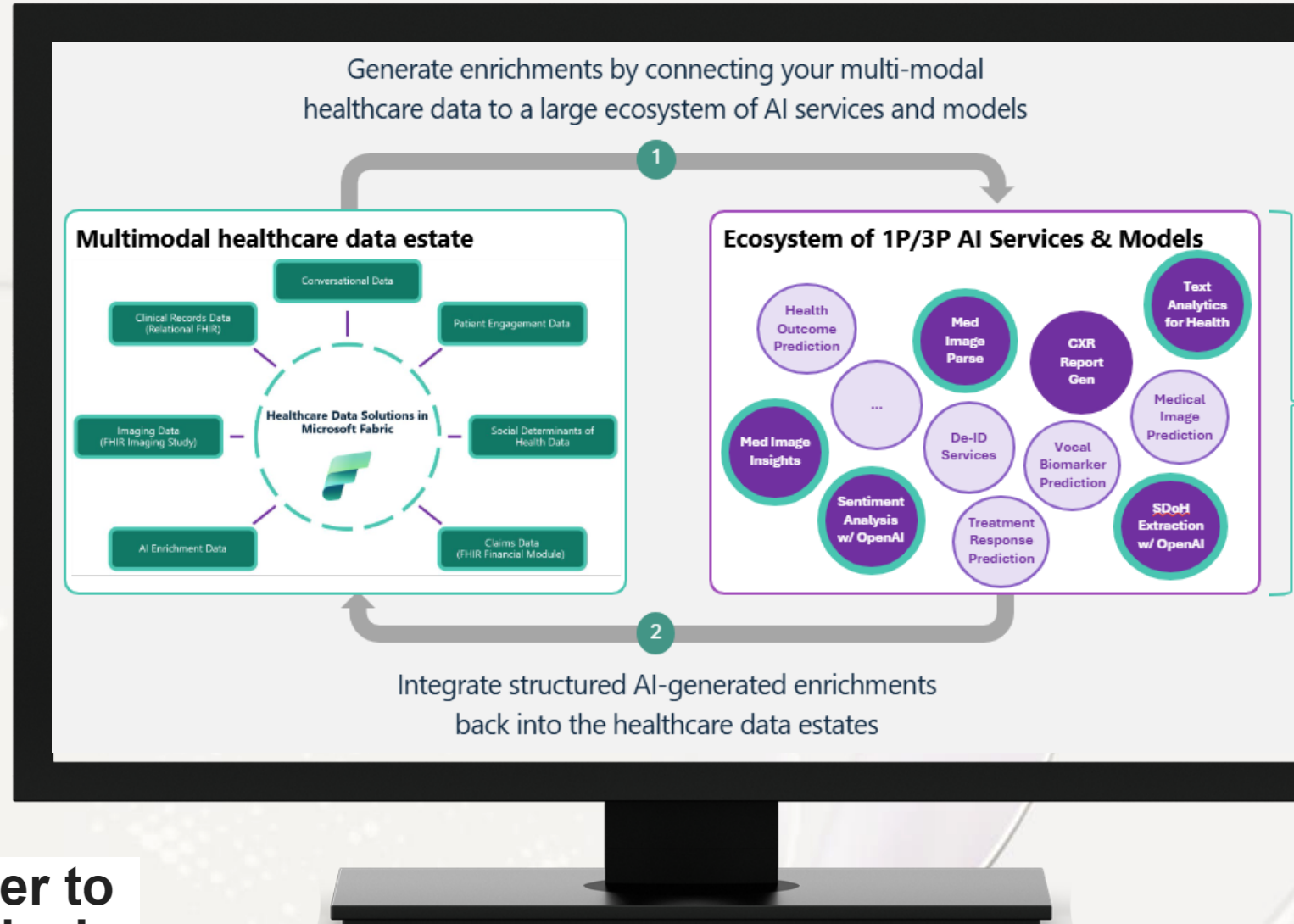
Mercy lays the foundation for a future of innovation in patient care using Microsoft Azure to unlock insights from data in the cloud

Conversational data & AI enrichments



“I want to measure positive, negative, neutral sentiment score and reasoning for doctor’s services, staff services, cost ,hospital facilities” – CIO, Leading AMC

Microsoft, Canary Speech partner to advance AI-enabled speech analysis



Data and AI coming together

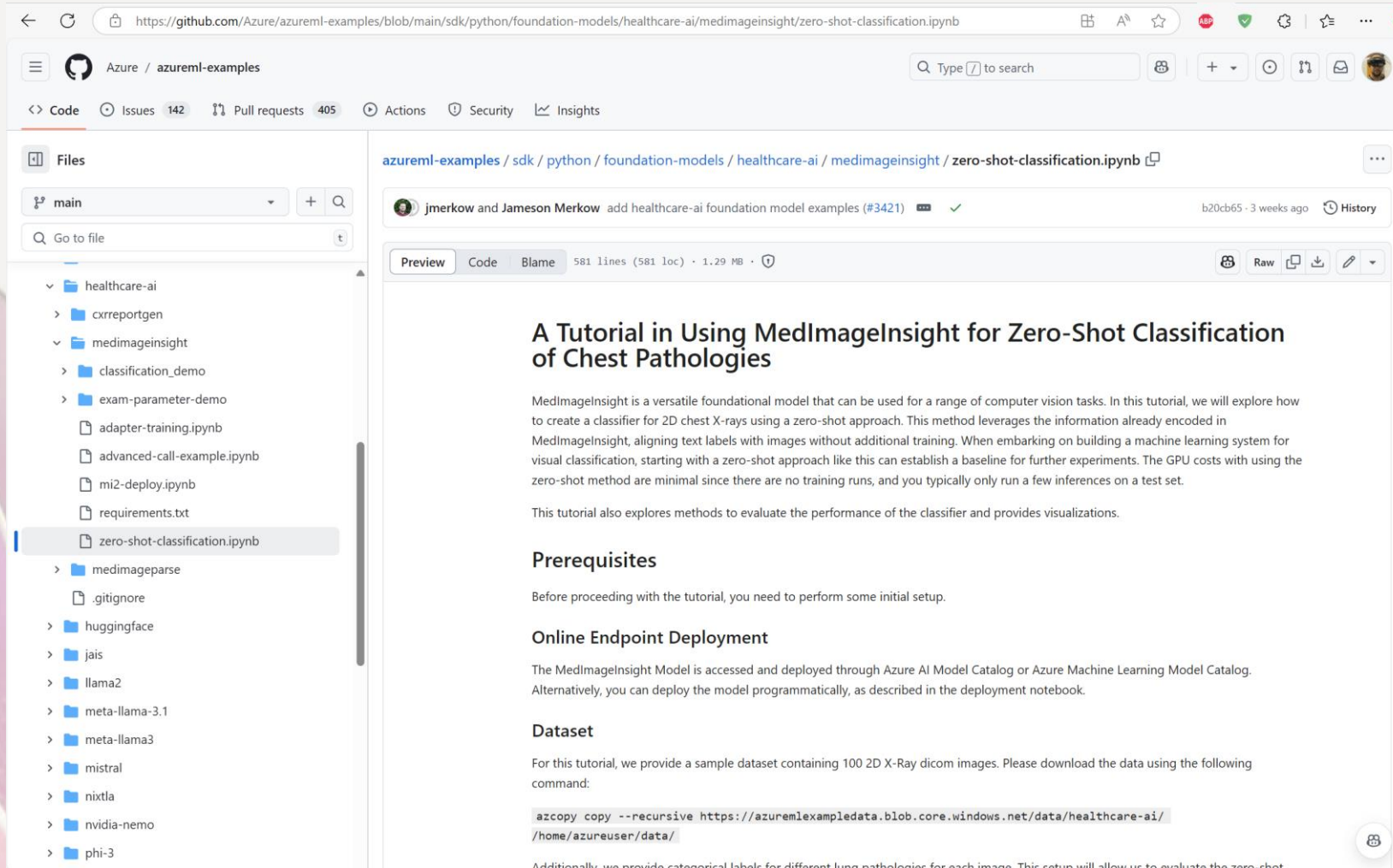


"I need a research data platform for biomarker discovery across multi-modal data spanning device, imaging, and clinical." – AMC R&D Exec

Microsoft Investigator Fellow Dr. Travis Osterman uses Azure to support lung cancer treatment protocols

[illegible]

Sample code repository



- ★ Zero-shot classification with embedding models
- ★ Efficient classifiers on top of embedding models
- ★ How to build an outlier detection system for cross sectional images?
- ★ How to connect independent models for radiology and pathology analysis?
- ★ Building image-image search systems

Let's Collaborate!



Real world evidence research

Build cohorts and AI models to uncover patterns, trends and insights



AI enrichments

Enrich clinical conversations with SDoH, sentiment analysis, image analysis, unstructured notes/docs



Clinical decision support

Screen for behavioral health issues using vocal biomarker analysis




Operational efficiency

Automate manual processes to streamline workflows



Enhanced clinical workflows

Use Dragon Copilot to automate tasks and surface relevant information



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graph TD; A[Prioritize use cases + Identify stakeholders] --> B[Define success metrics]; B --> C[Conduct Proof of Concept]; C --> D[Document and share findings]; D --> E[Iterate & Celebrate !];
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Prioritize use cases + Identify stakeholders

Define success metrics

Conduct Proof of Concept

Document and share findings

Iterate & Celebrate !

Key Takeaways

- Explore model cards and design templates
- Implement and evaluate them with your specific use case(s)
- Develop a Proof of Concept (PoC) or Minimum Viable Product (MVP)
- Contact us for collaborative efforts to refine and enhance your project by simply filling out <https://aka.ms/healthcare-ai-request-external>

Please reach out to us:

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