ai.dartmouth.edu in Action
Showcasing Innovative Projects and Use Cases

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Dartmouth Libraries

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Goals of this session

🤝 How do ITC and the Libraries support AI at Dartmouth?

✈️ What is the high-level overview of our homegrown AI ecosystem?

🚀 How can this ecosystem benefit Teaching and Research?

AI user framework

Our AI support is designed around a mental framework of our Dartmouth community's needs:

🔨 **Level 1: The Consumer**

- Using AI through applications. This includes web interfaces, e.g. ChatGPT or Bing Image Creator, and plug-ins or integrations into other tools (e.g., Copilots in VS Code or Microsoft Outlook).

🧩 **Level 2: The Integrator**

- Using AI through Application Programming Interfaces (APIs). This includes the integration of existing, well-defined AI tools into other applications or websites without much customization.
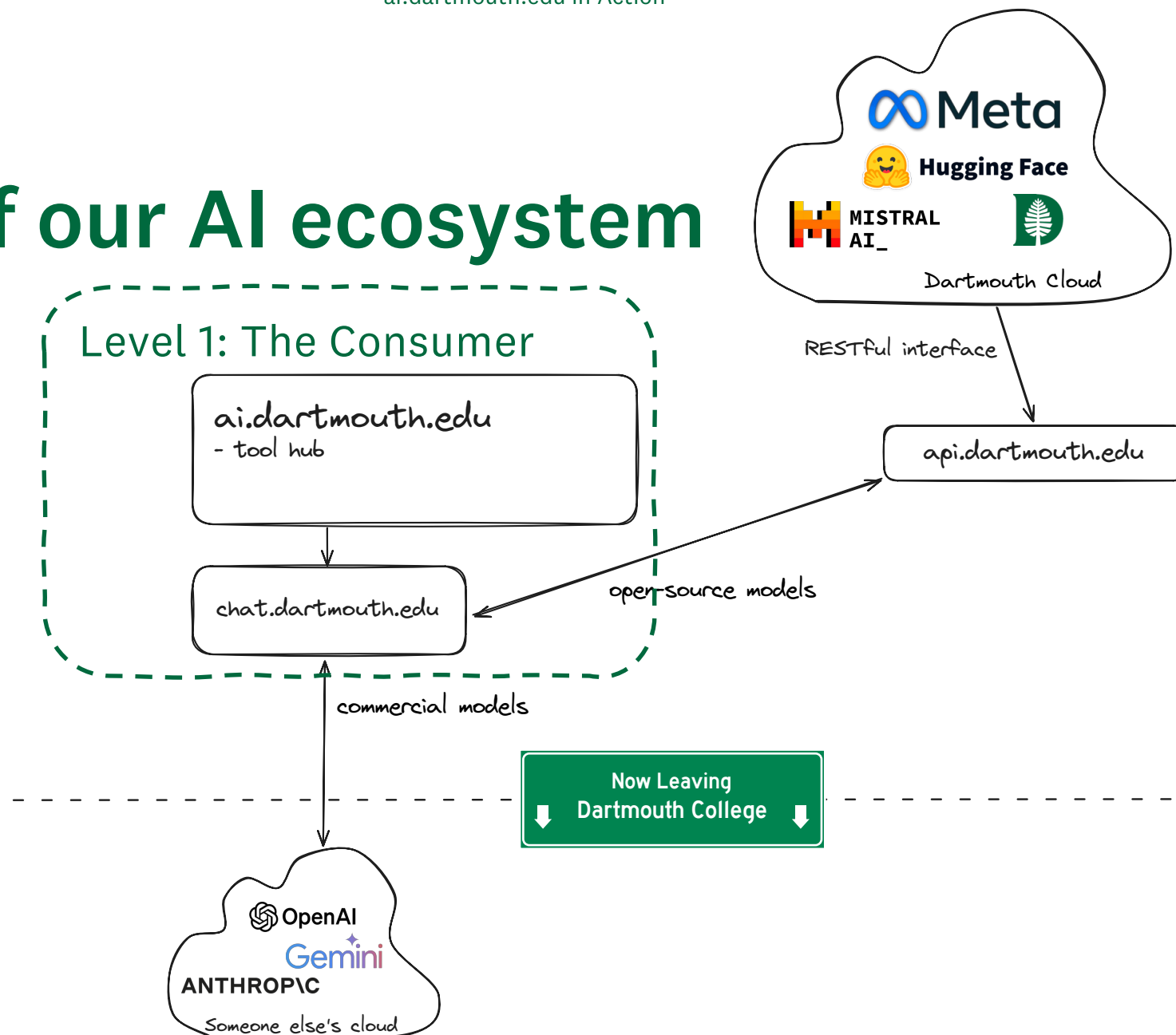
🎨 **Level 3: The Creator**

- Using AI tools as building blocks that may be heavily customized and combined into new tools and applications. This may include training or fine-tuning new and existing models, as well as deploying novel tools on appropriate resources.

Note: Each user may use AI at a different level at any given time and move freely between them from use case to use case!
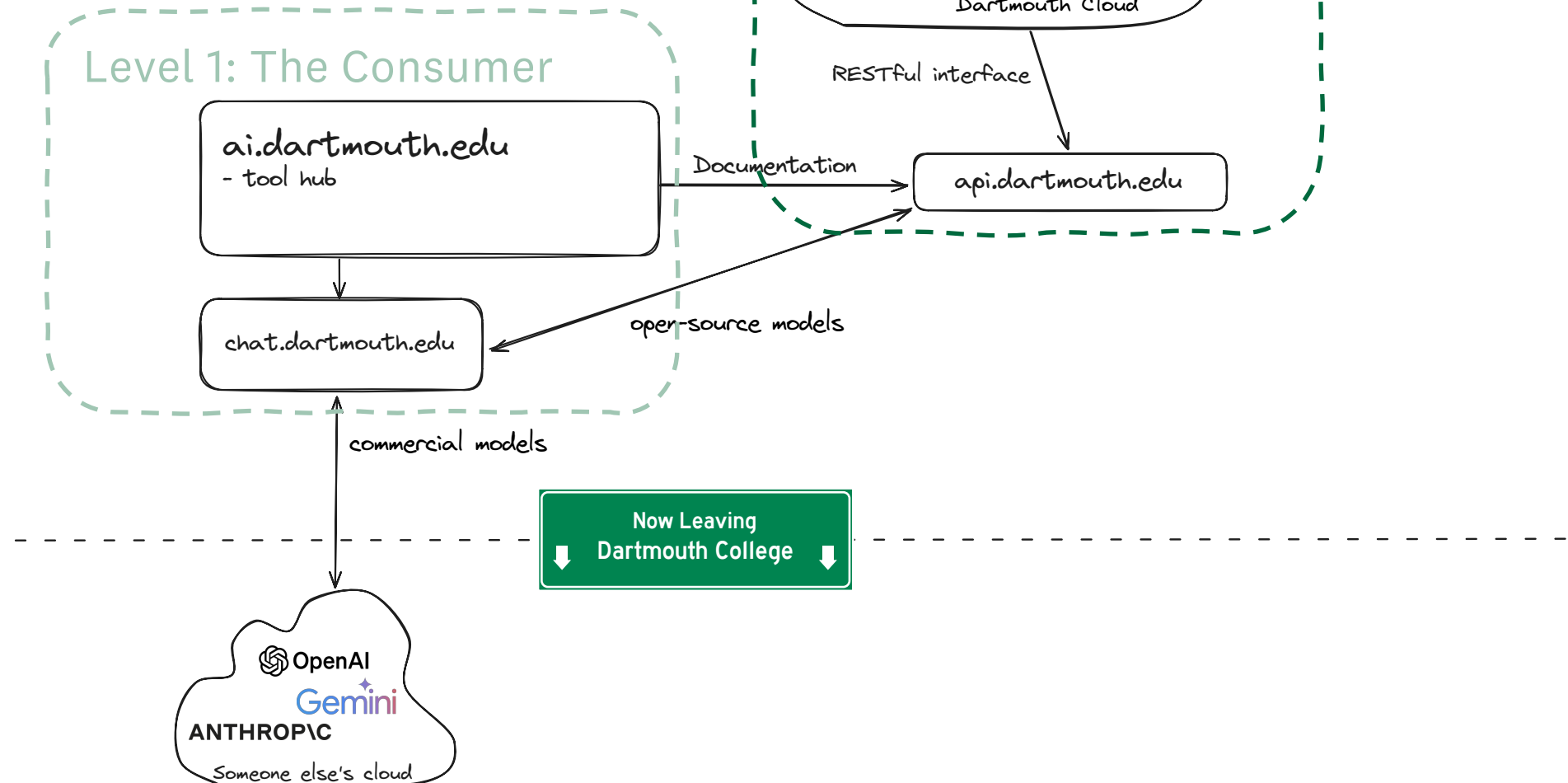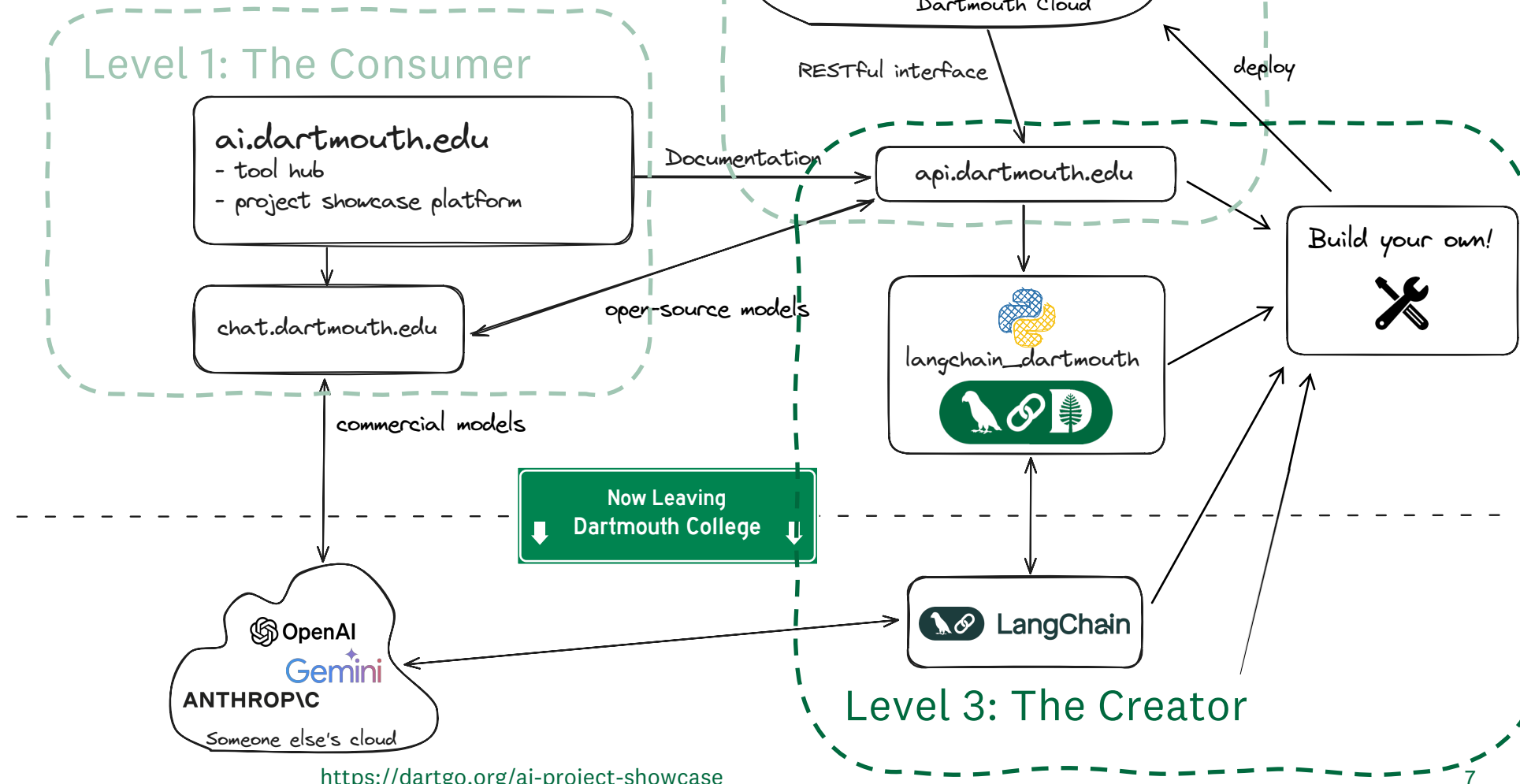
Overview of our AI ecosystem

Meta

🤗 Hugging Face

MISTRAL AI_

Dartmouth Cloud

Level 1: The Consumer

ai.dartmouth.edu
- tool hub

RESTful interface

api.dartmouth.edu

chat.dartmouth.edu

open-source models

commercial models

**Now Leaving
Dartmouth College**

OpenAI

Gemini

ANTHROP\C

Someone else's cloud

https://dartgo.org/ai-project-showcase

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deploy

Build your own!

langchain_dartmouth

open-source models

commercial models

Now Leaving
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LangChain

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Overview of our AI ecosystem

Rollout this Fall:

🏋️ Supported by training events covering all levels of use

👂 Walk-in sessions to hear and learn from our users

Today:

🔦 See some examples created by some of our "early adopters"!

💡 Get inspired!

👷 Hands-on building time!

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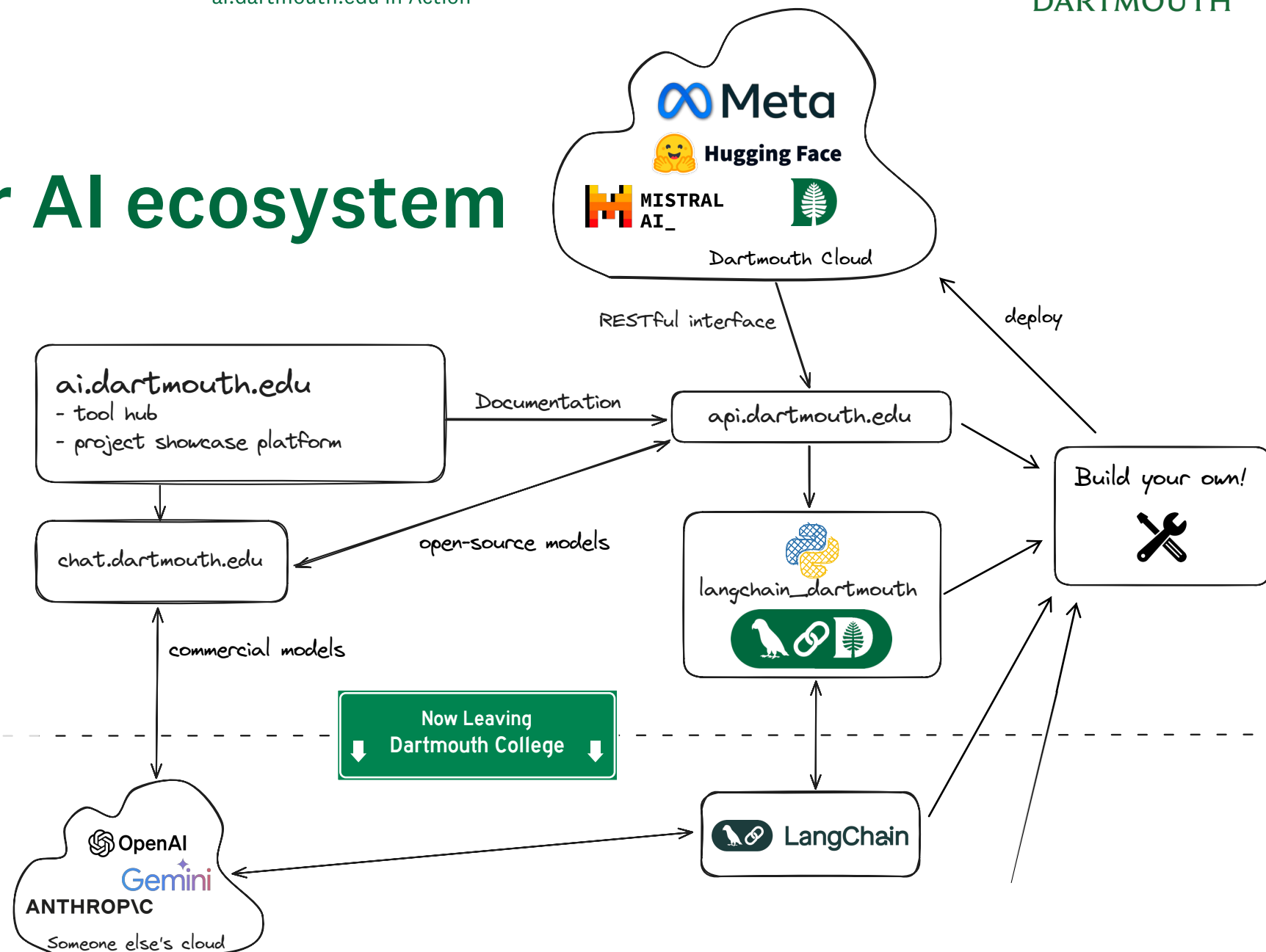
Project showcase

Teaching:

🤕 AI Patient Actor (Thomas Thesen, Geisel)

🤝 AI Negotiator (Aram Donigian, Tuck)

Research:

🎭 French play announcements (Scott Sanders, French & Italian)

🤩 44 Billion Moments of Joy (John Bell, Film & Media Studies)

🧭 Finance Navigator (Lisa Wallace, Finance)

https://dartgo.org/ai-project-showcase

Project Showcase
AI Patient Actor (Thomas Thesen, Geisel)

Project brief:

An LLM-enabled web application to help medical students practice patient interactions.

How we support it:

☁️ Application deployed in Dartmouth Cloud

💸 Uses commercial models via LangChain framework

📣 Offering a project showcase platform

Project Showcase
AI Negotiator (Aram Donigian, Tuck)

Project brief:

An LLM-enabled contract negotiation trainer for business school students.

How we support it:

☁️ Application deployed in Dartmouth Cloud

💸 Uses commercial models via LangChain framework

📣 Offering a project showcase platform

Project Showcase
French Plays (Scott Sanders, French & Italian)

Project brief:

Extracting structured data from French play announcements

How we support it:

- Uses on-premise LLM

- Works with components from `langchain_dartmouth`

Project Showcase
44 Billion Moments of Joy (John Bell, Film & Media Studies)

Project brief:

An LLM-enabled generator turning a list of objects in a scene into a performance art script (Fluxus score).

How we support it:

- Uses on-premise LLM and embedding models

- Works with components from `langchain_dartmouth`

- Vectorstore and API endpoint deployed in Dartmouth Cloud

- Adding it to the tool hub, offering a project showcase platform, enabling future Integrators

Project Showcase

Finance Navigator (Lisa Wallace, Finance)

Project brief:

Conversational app to browse Finance's knowledge base

How we support it:

🌳 Uses on-premise LLM, embedding, and reranking models

✳️ Works with components from `langchain_dartmouth`

☁️ Vectorstore and app deployed in Dartmouth Cloud

Project Showcase
Get inspired!

Do you or anyone you support...

🎭 ...have an idea for an AI roleplaying exercise?

🔬 ...deal with interesting insights buried in unstructured data?

🧭 ...want to explore a collection of texts through conversation?

🔒 ...have privacy concerns around the use of AI?

🤔 ...have any other ideas, concerns, questions, thoughts that involve AI?

Talk to us:

✉ researchdatahelp@groups.dartmouth.edu

✉ research.computing@dartmouth.edu

Hands on
Two sides of the same coin

Examples:

💬 Basic prompting
☝️ System message
👥 Multiple models
🦋 Text transformation
🔍 Basic RAG: Website and YouTube video

Tools:

📖 chat.dartmouth.edu: No code, great for one-off tasks

📚 `langchain_dartmouth`: Python code, great for automated processing at scale

🔗 Both use the same models and infrastructure!

Wrap-up

- Any experiences, feedback, or comments to share?

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Summary

🌿 Dartmouth's own AI ecosystem is a real alternative to commercial offerings

🧰 Infrastructure, tools, and expertise are available through Research Computing and the Dartmouth Libraries

🌈 We aim to support the widest possible spectrum of users and use cases

- Talk to us:

  ✉ research.computing@dartmouth.edu

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Thank you