





AI @ Dartmouth for Research Use: **Advanced Applications and Customization**

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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 we leverage this ecosystem to build novel applications?

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.

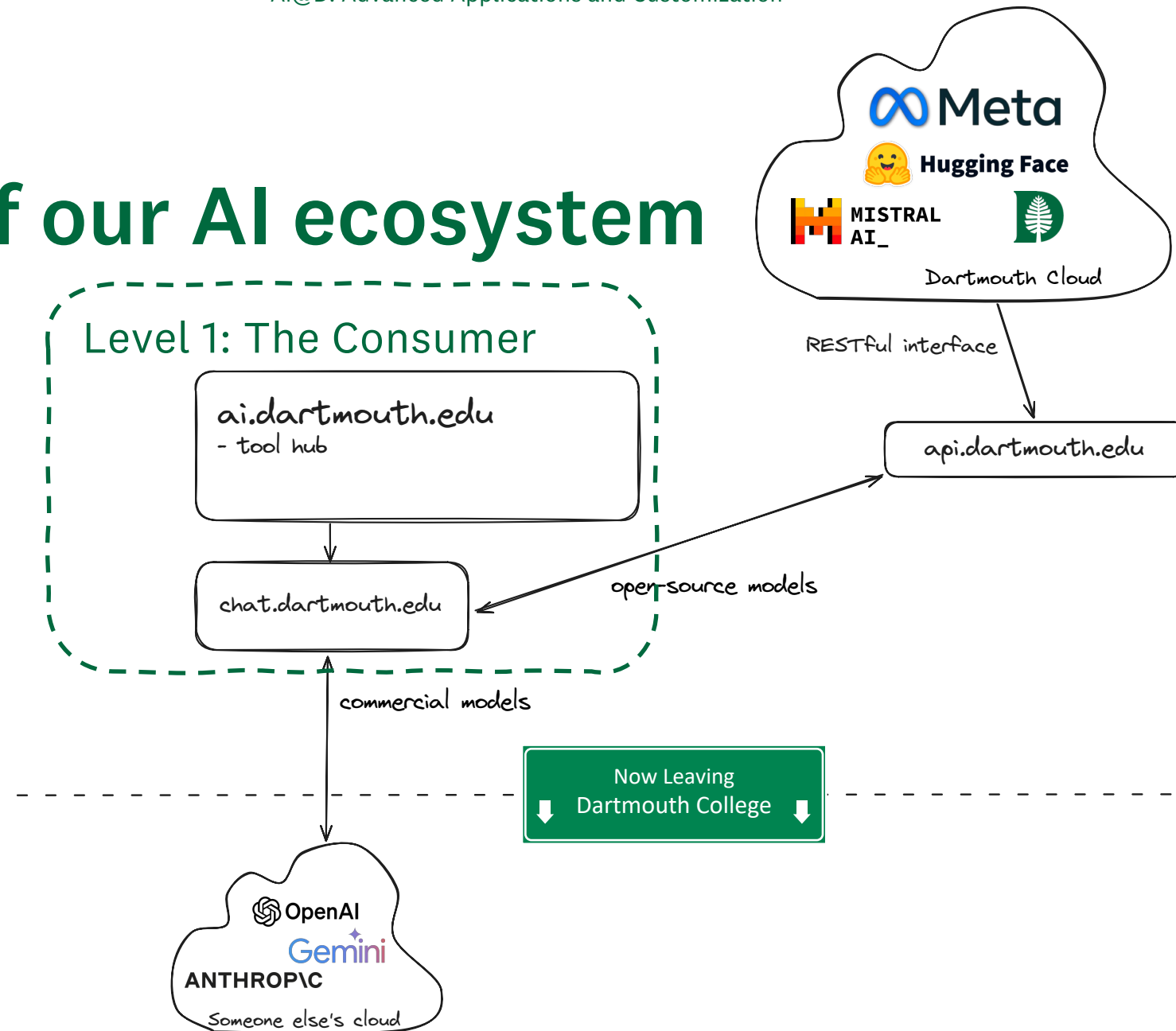
Level 3: The Creator

- 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!

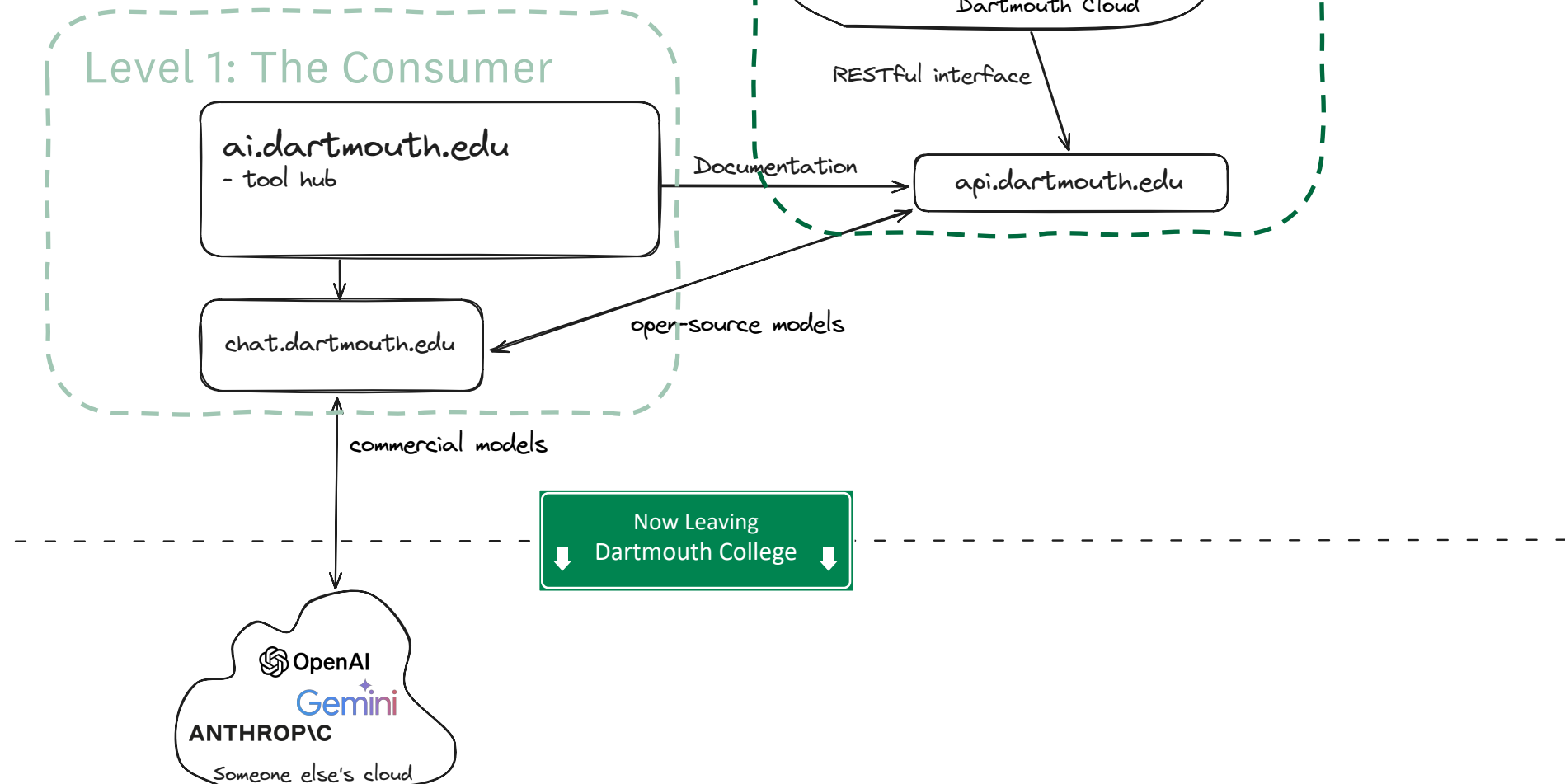


Overview of our AI ecosystem



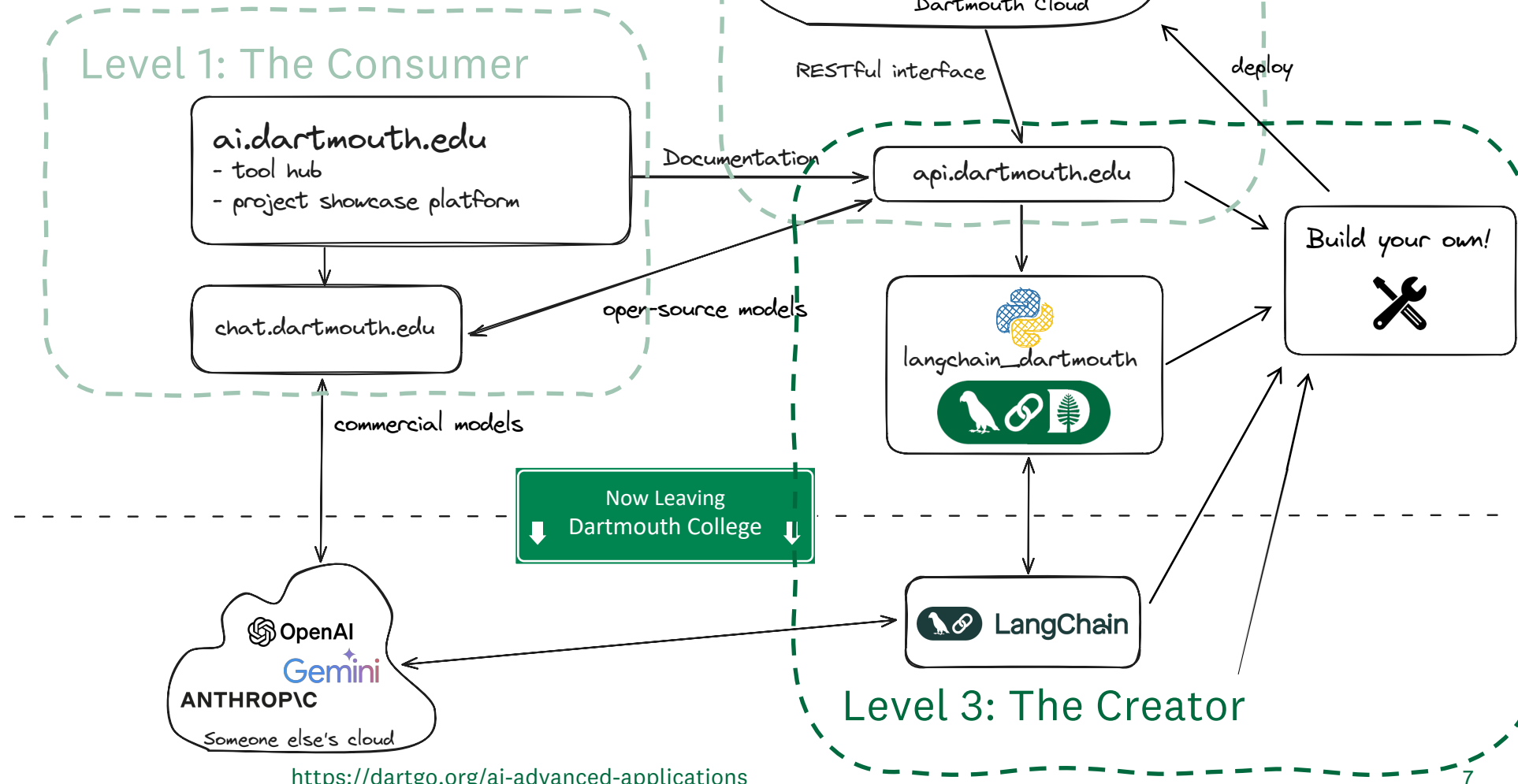


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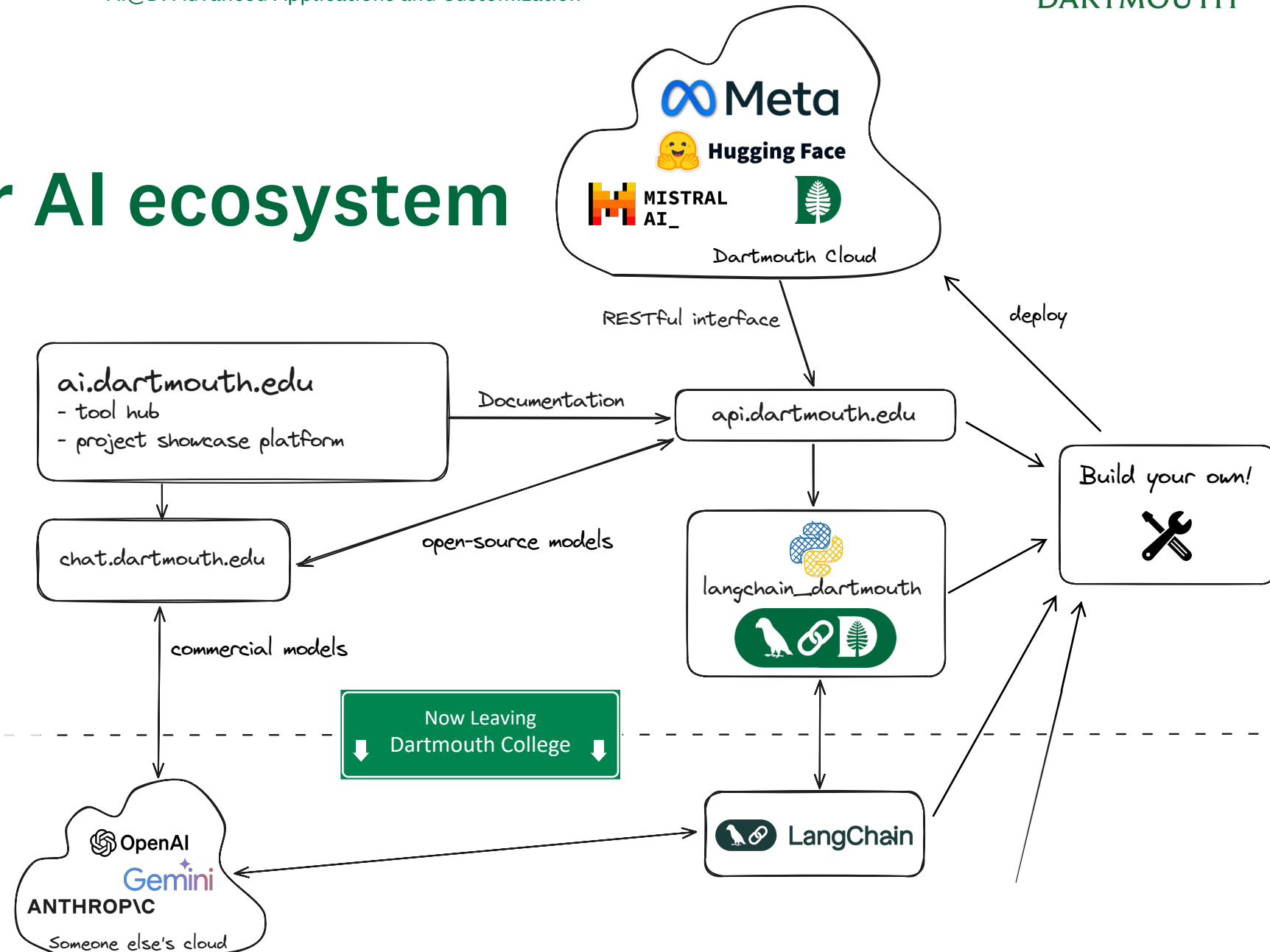
Overview of our AI ecosystem

Rollout this Fall:

- 🏆 Supported by training events covering all levels of use
- 👂 Walk-in sessions to hear and learn from our users

Today:

- 🚀 Get started!
- 💡 Get inspired!
- 👷 Hands-on building time!













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?
- More documentation and examples:
 - <https://dartmouth-libraries.github.io/langchain-dartmouth/>
 - <https://dartmouth-libraries.github.io/langchain-dartmouth-cookbook>



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

 researchdatahelp@groups.dartmouth.edu



Thank you