

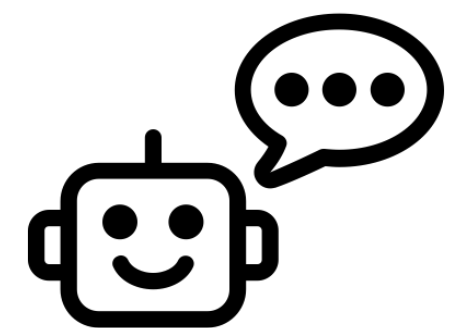
Jill Watson and AskJill: AI-Powered Q&A Agents

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Background



Jill Watson (JW), first deployed in OMSCS classes in 2016, is a Q&A agent that answers questions related to course syllabus and schedule.

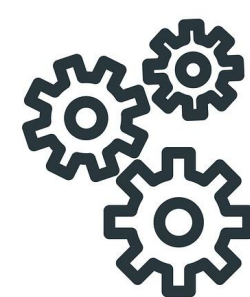


AskJill, evolved from JW, is an artificial intelligence explanation agent that can answer questions about the domain, operation and functionality of other AI systems.

Jill Watson in 2022



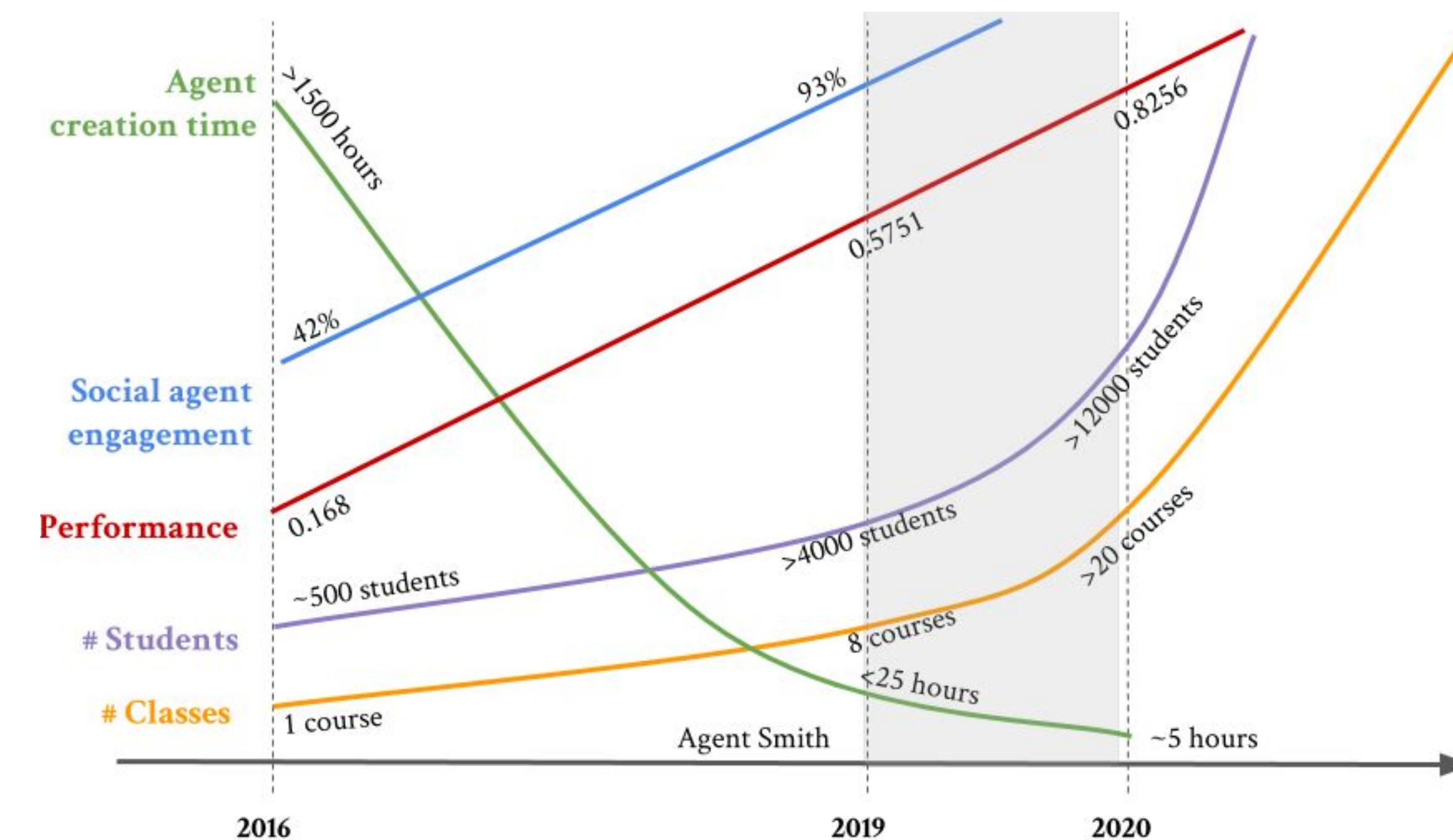
In **Spring 2022**, Jill Watson was deployed in 4 OMSCS courses: CS 7637 (622 students enrolled), CS 7646 (1426), CS6750 (492), and CS 6795 (95).



Jill Watson Automation

- Agent Smith-based automated training dataset generation.
- Automated HTML-based syllabus scraping.
- Automated domain knowledge database (SQL) generation.

Jill Watson Performance Results



AskJill in VERA

AskJill uses the User Guide for an AI-based interactive learning environment (VERA) to automatically answer user's questions in the below categories:



Goal

What is the goal of VERA?



Getting Started

How do I get started?



System Requirements

What are the system requirements?



Definitions and Parameters

Definitions: What is a carbon cycle?, What is ecological efficiency?



Default Values

What is the default value of photosynthesis rate?



Value Units

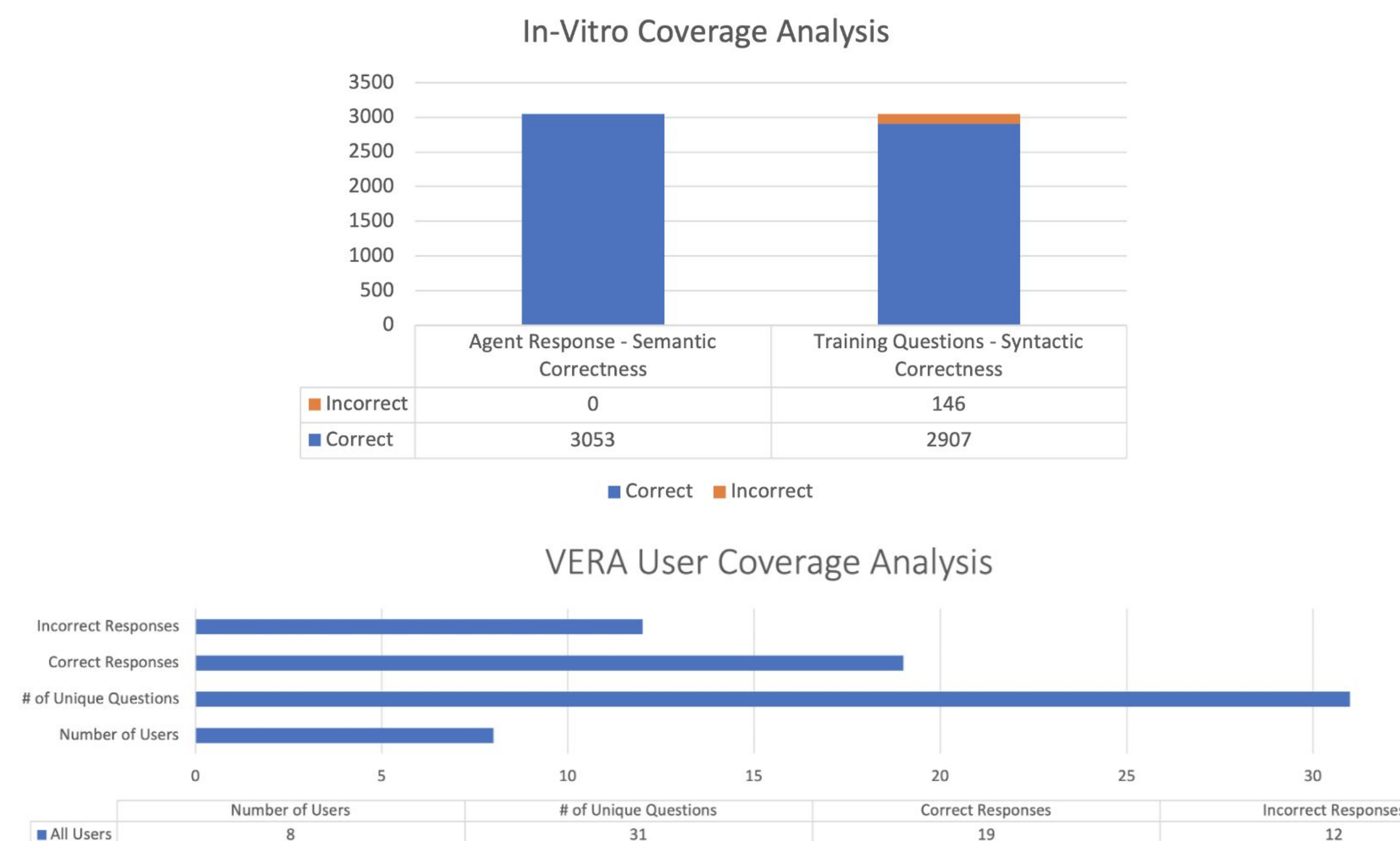
What are the units of move velocity?



How Do I ...

How do I add a component?

AskJill in VERA Performance Results



Current Research



Scaling Jill Watson

- Introduce JW to dozens of classes, additional colleges and learning management systems.
- Can we build a Jill Watson for eBooks?
- How can we improve AI accuracy in answering user queries?



Task-Method-Knowledge (TMK) Models of AI Systems

- How can AI help build user trust by providing explanations?
- Is TMK a good framework for representing AI systems?

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