



AI and the Future of Higher Education

The Five Transformative Opportunities

IT Strategy Advisory Services

Introduction



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HE Leaders Have Vastly Different Takes on AI



Four AI Personas Found Across the Cabinet



**Stubborn
Skeptic**

"AI is just the latest overhyped piece of technology."



**Passive
Observer**

"AI is a pedagogical issue. Faculty should play around with it but that doesn't make it an IT priority."



**Curious
Examiner**

"I am exploring AI applications, but I'm not sure what problems it helps me solve yet."



**AI
Champion**

"AI will transform every part of higher education."

AI Breaks the Mold of Technology Adoption

ChatGPT's User Base Grew Much Faster Than Other Tech Breakthroughs

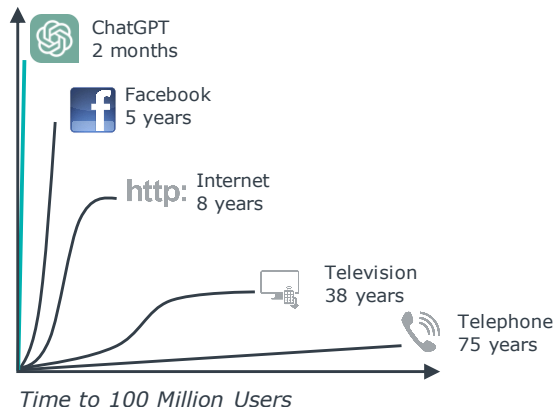
What is Generative AI?

Latest development in AI that refers to deep-learning models that can **generate high-quality text, images, and other content** based on the data they were trained on.¹



ChatGPT's Meteoric Adoption Rate Sets Historical Precedent

Time to 100M Users By Technology



Generative AI Reaches Inflection Point Due to Unique Developments

▶ Accessible and User-Friendly

Web-based access allows anyone to use AI via everyday devices like PCs and phones. Users can use simple text prompts to deliver commands and process outputs.

▶ Trained on Vast Knowledge Base

Models are trained on large sets of data (e.g., books, web texts, and articles from billions of Internet webpages).

▶ Generates New, Human-like Content

Tools can generate new, creative content across domains (e.g., text, images, software, music, video) that is often indistinguishable from human outputs.



Source: D Gerwitz, "How does ChatGPT actually work", ZDNET, July 13, 2023; K Hu, "ChatGPT sets record for fastest-growing user base – analyst note", Reuters, February 2, 2023; EAB interviews and analysis.

1) [IBM Research definition.](#)

Level-Setting: Three Facts About AI

AI is Quickly Becoming a Staple in Everyday Life



Mainstay Vendors Integrate Generative AI Into Key Offerings

- Google launches generative AI-powered search experience
- Microsoft releases Copilot throughout Office 365 Suite
- Adobe launches Firefly, generative AI for creators, across products

More Vendors Plan to Launch AI Offerings



Students, Staff (Even Presidents) Already Using AI Tools



89%

Of students admitted to using ChatGPT in their coursework

67%

Of higher education staff reported using generative AI for their work in the 2022-23 academic year

Wells College president Jonathan Gibraltar is among several higher ed leaders who used ChatGPT to craft parts of their graduation speech

Business AI Tools Less Risky than Public Tools



More Options For Safeguards With Business AI Tools

- Institutions negotiate security in contracts with AI vendors
- Vendors, along with institutions, can train tools and implement guardrails to minimize inaccuracies and hallucinations

AI Risk Frameworks Follow Tried-and-True Templates

- National Institute of Standards and Technology (NIST) released an [AI Risk Management Framework](#) in 2023, following template of cybersecurity framework
- Focus is similarly on educating users on safe data practices

Source: C Westfall, "Educators Battle Plagiarism As 89% Of Students Admit To Using OpenAI's ChatGPT For Homework", Forbes, January 28, 2023; J Moody, [The ChatGPT Commencement Address](#), Inside Higher Ed, June 29, 2023; M McCormack, "EDUCAUSE QuickPoll Results: Adopting and Adapting to Generative AI in Higher Ed Tech", EDUCAUSE, April 17, 2023; EAB interviews and analysis.

AI and the Future of Higher Education: Five Transformative Opportunities



• Incorporate AI into the Curriculum
• to Prepare Students For the Future of Work



• Provide 24/7, Personalized Student Support
• With One-Stop Conversational AI



• Supercharge Faculty and Staff Productivity
• to Pursue More Strategic Tasks



• Maximize Enrollment and Advancement Yield
• With Hyper-Personalized Content Generation



• Transcend Historical Bounds of Innovation
• in Research by Using AI to Expand
• Human Capabilities



AI and the Future of Higher Education

TRANSFORMATIVE OPPORTUNITY



Incorporate AI into the Curriculum
to Prepare Students For the Future of Work

1

Support Faculty and Student Use of AI



8

Encourage Faculty Use of AI in Pedagogy



Institutional Statement Embracing AI

USC's Provost and Academic Senate released a [statement](#) urging faculty to encourage students to explore AI



AI Literacy Courses

Auburn offers a hands-on "[Teaching with AI](#)" course that approximately ~600 faculty members have enrolled in



Faculty AI Teaching and Learning Workshops

The University of Mississippi launched a paid (\$1,000 stipend) two-day [AI Summer Institute for Teachers of Writing](#)

Create AI Learning Opportunities for Students



UNIVERSITY OF
SAN FRANCISCO

Student Orientation Session on ChatGPT

USF developed a Zoom orientation session on ChatGPT for incoming students, focused on pros, cons, and ethics of using AI for schoolwork



On-Demand Student Trainings

Vanderbilt offers free, extensive AI training (including workshops and online courses) for students, faculty, and staff



Subsidized Tokens and Microcredentials

HKU pays half of the course fees for students taking Coursera modules on AI and provides them with 500K AI access tokens (costing ~\$1-2 per student per month)

Source: J Alonso, "[Now on the Orientation Schedule: Free Speech and ChatGPT](#)", Inside Higher Ed, August 25, 2023; Vanderbilt, "[Vanderbilt launches free online ChatGPT course, shaping the future of AI education](#)", Vanderbilt University Research News, May 24, 2023; Hong Kong University, Hong Kong, China; EAB interviews and analysis.

AI Reconstructs Nature of Work Across Industries



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AI Disruptions Across Industries

Before Generative AI



TV & Movie Writing:

Studios rely on writers for source material and actors for performances



After Generative AI

Writers & Actors on Strike

"Generative AI writes scripts and creates backdrops, replacing writers and background actors"



Legal Services:

Only basic document review can be automated or outsourced



Rise of Robot Lawyers

"Research finds nearly half of legal work could be automated"



Graphic Design:

Designers create projects based on preset visuals, fonts, and layouts



Designs on Steroids

"Microsoft Designer tool generates complex designs in an instant based on text descriptions"



Software Engineering:

Engineers write code to implement software functionality using various programming languages



2X Faster with AI

"McKinsey study show software developers complete coding tasks up to twice as fast with generative AI"

Sources: A Dalton, "[Writers strike: Why A.I. is such a hot-button issue in Hollywood's labor battle with SAG-AFTRA](#)", *Fortune*, July 24, 2023; M Diaz, "[Microsoft Designer brings AI-powered graphic design to the masses](#)", *ZDNet*, April 27, 2023; S Lohr, "[AI Is Coming for Lawyers, Again](#)", *McKinsey & Company*, "[Unleashing developer productivity with generative AI](#)", *McKinsey Digital*, June 27, 2023; EAB interviews and analysis.

The Next Workforce Revolution

Near Universal Consensus AI Will Transform Employee and Business Activity

AI Investment Expected to Grow...

53% Increase in demand for AI/machine learning engineers (2020-2023)

+1M Projected growth of AI/machine learning jobs 2023-2027

75% of companies plan to adopt AI or AI-adapted technologies 2023-2027

...And Bring Major Economic Change

30% of hours currently worked could be automated or eliminated by AI by 2027

50% of current workforce tasks may be automated by 2030

7% Increase in global GDP because of generative AI over next 10 years

“AI's impact ... will be as big as the introduction of the PC. Word processing applications didn't do away with office work, but they changed it forever.”

— Bill Gates

Source: Gafner, [“Best Jobs of 2023,”](#) Indeed.com, May 18, 2023; World Economic Forum, [“Future of Jobs Report,”](#) World Economic Forum, May 2023; Ellingrud et al., [“Generative AI and the future of work in America,”](#) McKinsey Global Institute, July 26, 2023; Goldman Sachs, [“Generative AI could raise global GDP by 7%,”](#) Goldman Sachs, April 5, 2023; The European Commission and US Council and Economic Advisory, [“The Impact of Artificial Intelligence on the Future of Workforces in the European Union and the United States of America,”](#) The White House, Dec. 5, 2022; EAB interviews and analysis.

Far More Jobs Created or Impacted Than Destroyed

11

Diverse Career Outcomes as Various Jobs Are...

...Made Redundant by AI



Accelerated Losses

- Accounting clerks
- Customer service agents
- Data entry workers
- Media writers and journalists

New Eliminations

- Administrative secretaries
- Budget and financial analysts
- Coders
- Technical writers

19%

of US workers
in jobs exposed
to AI

...AI-Impacted



Qualifications & Skills Listings for 2023 Job Postings on Indeed.com

- **Graphic Designer:** "Familiarity with AI and ChatGPT technology"
- **Protein Sciences Research Scientist:** "Experience utilizing artificial intelligence protein design, SAR, or related biological applications"
- **Content Writer, Editor, and Researcher:** "Proficiency in prompting and navigating AI tools such as ChatGPT"

21x

Increase in jobs
mentioning GPT
from Nov '22-
August '23

...AI-Created



Common AI Job Posting and Salary

- Prompt Engineer & Librarian (\$375,000)
- Head of Artificial Intelligence (\$200,000)
- Senior Creative Evangelist (\$200,000)
- Natural Language Processor (\$190,000)
- AI Consultant (\$100/hour)
- AI Prompt Engineering Creator (\$100/five prompts)

#1

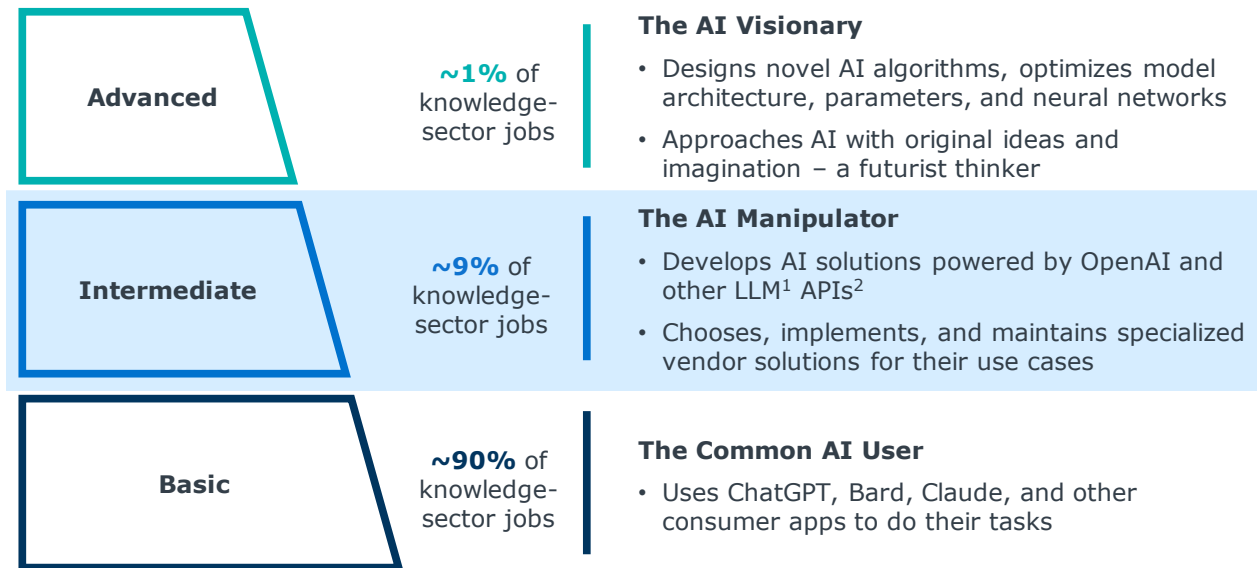
Fastest growing
job category (AI
and Machine
Learning Specialist)

Source: "[Future of Jobs Report](#)," World Economic Forum, May 2023; "[Future of Work Report](#)," LinkedIn, August 2023; Kochhar, "[Which U.S. Workers Are More Exposed to AI on Their Jobs?](#)" Pew Research Center, July 26, 2023; Komand, "[Looking for a career with big money and perks? How much jobs in artificial intelligence pay.](#)" USA Today, June 15, 2023; Malinsky, "[4 in-demand freelance A.I. jobs—one can pay \\$100/hour.](#)" CNBC, Aug. 17, 2023; Gafner, "[Best Jobs of 2023](#)," Indeed.com, May 18, 2023; "[Job Search](#)," Indeed.com, July 21, 2023; Mok and Zinkula, "[ChatGPT may be coming for our jobs](#)," Business Insider, Sep. 4, 2023; EAB interviews and analysis.

How Advanced Do IT Staff Need to Be?



Levels of AI Knowledge by Future Workforce Demand



1) Large language model.

2) Application programming interface.

UF Infuses AI Education Into All Disciplines

Preparing Students for the Future Requires AI Integration into Coursework

Key Elements of the University of Florida's AI Initiative



Top-Down Approach to AI

UF President and Provost strongly encouraged and incentivized incorporation of AI across all 16 colleges



AI-Specific Faculty Hired

UF hired 100 new faculty with AI backgrounds or experience across disciplines, with each college receiving at least one new hire



AI Courses Across All Disciplines

230 AI courses offered at undergraduate, graduate, and professional levels, and range from introductory to major-specific



AI Pathways Career Coach

Career center staff educate students on the use of AI in the job recruitment process



Course Offerings

- ☒ AI in Agriculture and Life Sciences
- ☒ Business Applications of Artificial Intelligence
- ☒ AI in Healthcare and Public Health

Research Applications



AI System Detects Bruised Strawberries Before Market



Building Equitable Workplaces with AI Technologies



AI Platform Predicts Surgical Complications

Looking Forward With AI

AI Becomes as Essential to Learning as Math and English



AI Pathways Across Disciplines— and Even Entirely New AI Disciplines

Not only will every discipline include built-out AI pathways, but entirely new disciplines will emerge, much like how the rise of data analytics spawned fields like business analytics.

- Ex: AI Behavioral Sciences, a new discipline at the intersection of AI and human behavior, focusing on AI's influence on social dynamics and individual decision-making.



AI Becomes an Essential Teaching and Learning Tool

Faculty will move away from designing AI-proof assignments to requiring the use of AI tools.

- Ex: Language classes will require interactions with AI avatars who speak in native tongues and create immersive environments, allowing for real-time cultural immersion and language practice.

Key Questions For Leaders

- How embedded is AI in your current curricula and teaching and learning infrastructure?
- What steps must your institution take to reach this future state?
- What can you do today to help infuse AI across the curriculum?





AI and the Future of Higher Education

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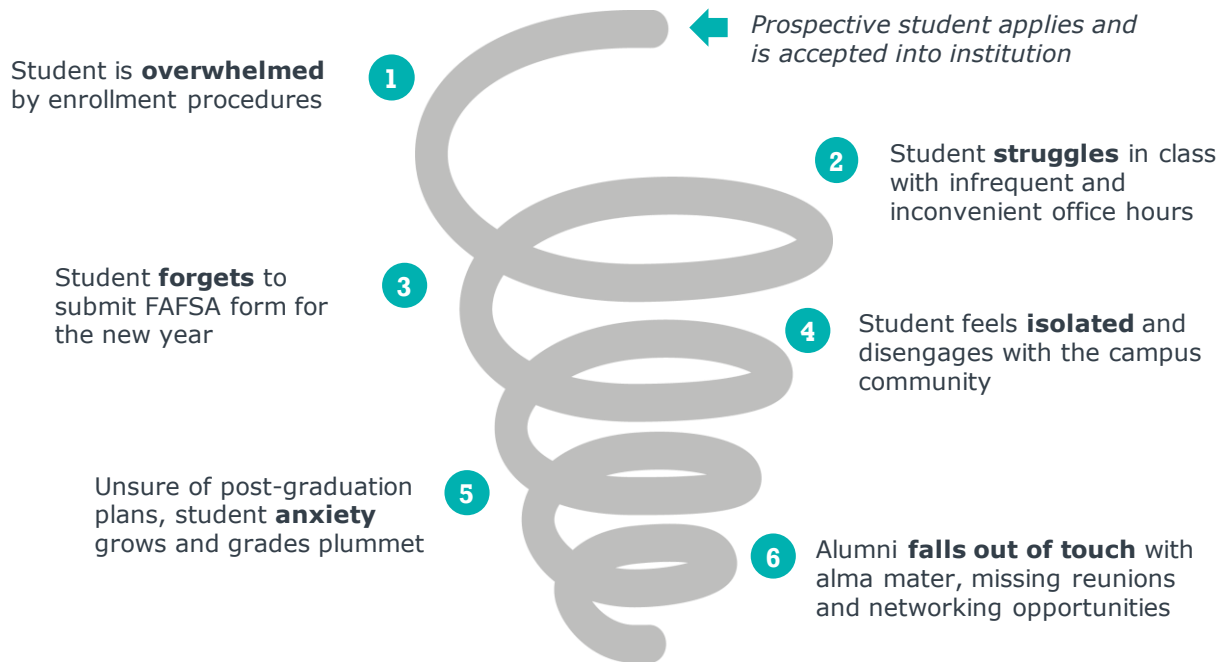
Provide 24/7, Personalized
Student Support with One-Step
Conversational AI

2

No Student Left Behind?



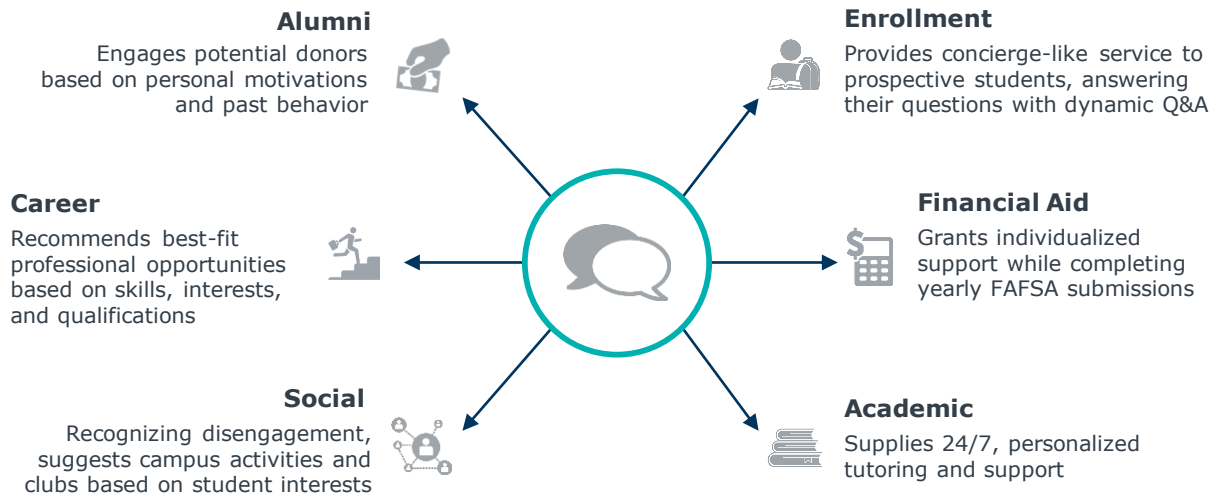
Service Pitfalls Throughout the Student Lifecycle



No Longer a Pipe Dream—24/7, Personalized Service

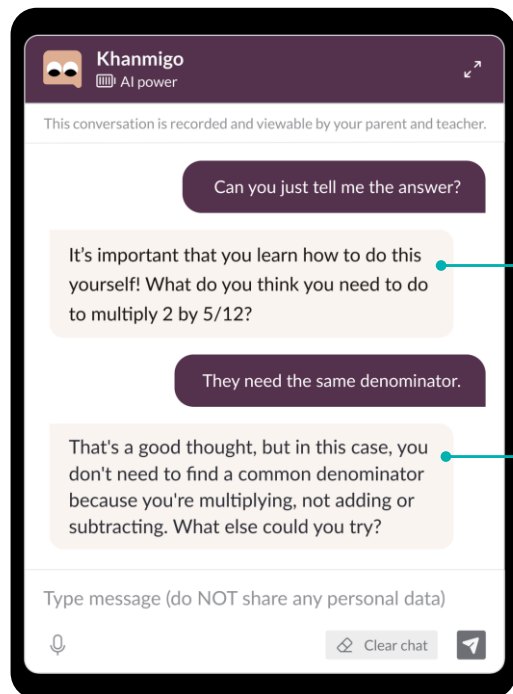
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How One-Stop Conversational AI Preempts Common Service Pitfalls



The Tutor That Never Sleeps

Khan Academy Launches Conversational AI Tutor Personalized to Students



Case in Brief: Khanmigo, AI Tutor

- ▶ Khanmigo supports real-time, one-on-one tutoring personalized to students.
- ▶ The conversational AI operates on GPT-4 and is trained on Khan Academy's learning content.

How Students Can Use Khanmigo



Coach writing



Serve as a debate partner



Assist with coding



Converse with historical figures

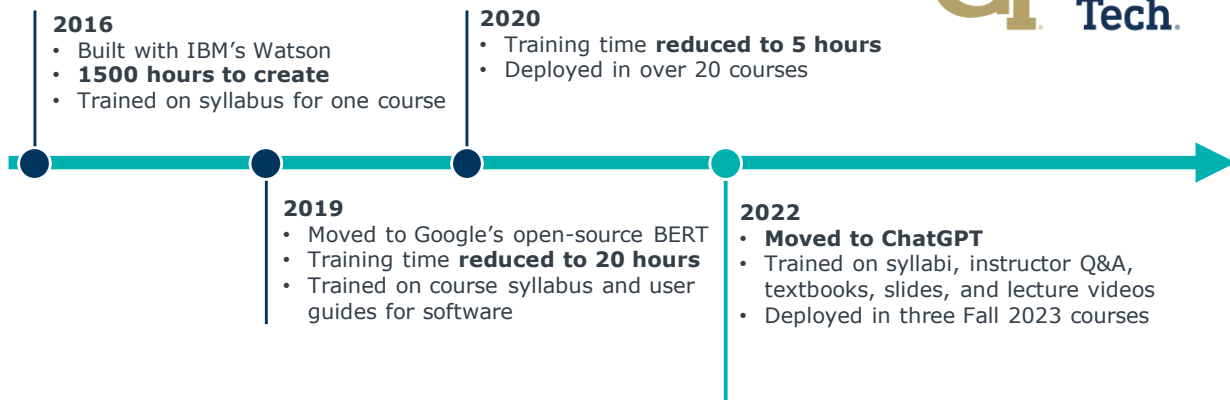
Additional guardrails prevent Khanmigo from outright giving students answers when they are struggling and ensure Khanmigo always keeps an encouraging tone.

Georgia Tech Builds AI Teaching Assistant

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Jill Watson is an AI-powered virtual teaching assistant (TA) tailored to individual courses, that saves instructor time by answering student questions how a human TA would.

Developmental Timeline of Jill Watson



ChatGPT Pushes Jill Watson Beyond Basic Student Inquiries

- The AI teaching assistant can now not only answer basic student course questions, but **tutor students on course content** (e.g., explain course topics, help with assignments)
- Jill Watson serves as an intermediary, fact-checking ChatGPT responses before sending to students, **reducing the hallucination rate in ChatGPT from 40% to 11%**

Source: "[AI-Powered Adaptive Learning: A Conversation with the Inventor of Jill Watson](#)", *Online Education*, May 13, 2020; Georgia Institute of Technology, "[Jill Watson: A Suite of Online Learning Tools](#)", *Design & Intelligence Lab*, October 20, 2017; J Preston, "[Jill Watson, an AI Pioneer in Education, Turns 4](#)", *Georgia Tech*, January 24, 2020; J Young, "[Georgia Tech Is Trying to Keep a ChatGPT-Powered Teaching Assistant From 'Hallucinating'](#)", *EdSurge*, June 22, 2023; EAB interviews and analysis.

Generative AI Lowers Barrier to Entry

Two AI Tools Developed Out of the University of Michigan

U-M GPT: A General AI Assistant

U-M GPT answers any academic or UM-specific question for all campus members. It can also summarize general information and produce written work.

Users can choose and experiment between **AI models** (GPT-3.5, GPT-4, Llama 2) depending on their needs

Technical Details

- ▶ Students can access U-M GPT at **no cost** and can generate up to 25 prompts per hour¹
- ▶ No **user-specific data** is used to train the model subsequently

U-M Maizey: A Personalized AI Tool

U-M Maizey connects to user's personal accounts (e.g., Google, Canvas) to provide customized answers to questions as well as insights from connected data sources.

With U-M Maizey, Users Can:

- ▶ Upload unstructured, natural-language texts such as Google Docs, PDFs, etc.
- ▶ Adjust the AI tool by changing the "temperature" or, sensitivity, of outputs
- ▶ Use or share their customized AI tool

U-M Maizey is available to members of the UM community at no cost through 2023. Afterwards, users will be charged monthly¹



8 Months

was spent on **tool development** post-ChatGPT's release. The tools allow for moderate-sensitive data to be inputted.

1) Each question asked is considered one prompt.

Looking Forward With AI

Say Goodbye to Text Chatbots, Say Hello to Your Omnipresent AI Buddy



Not Just Chatbots Anymore – AI Provides Multimodal Support

Future student support bots (based on multimodal LLMs¹) will be able to output multimodal content.

- Ex: Student asks a bot to draw a map of their route to class or verbally talk them through a complex course topic.



Student Support Anytime, Anywhere and Everywhere

Future AI bots will provide support everywhere, not just through chat interfaces in a phone or computer.

- Ex: Students speak “into the air” (i.e., to their phone or devices like Amazon Alexa’s) and receive assistance no matter where they are on campus, while still receiving text records of interactions.

Key Questions For Leaders

- Do you have an existing chatbot that could be upgraded with generative AI?
- What are the pros and cons of building your own student support bot versus partnering with a vendor?
- What data collection and management is necessary to create an AI bot?
- Who will be responsible for maintaining student support bots?

1) Large language model.



AI and the Future of Higher Education

TRANSFORMATIVE OPPORTUNITY



Supercharge Faculty and Staff
Productivity to Pursue More
Strategic Tasks

3

AI Ushers in a New Era of Productivity



Generative AI Projected to Augment Majority of Roles

2/3

Of current jobs are exposed to some degree of AI automation

50%

Of current workforce tasks may be automated by 2030

75%

Of companies plan to adopt AI or AI-adapted technologies 2023-2027

Different Classes of AI Tools Promise Compounding Productivity Gains

Publicly accessible AI tools



Staff member uses GPT-4 to generate drafts of emails and project plans

New AI features in university-wide software suites



Budget analyst uses Microsoft Copilot to visualize data in Excel and create a summary of the data in Word

Specialized AI solutions



General counsel uses AI assistant to complete contract analysis and surface insights on past contracts

Public AI Tools Enhance Individual Productivity

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Administrative Assistant

An administrative assistant at Maple University¹ uses Bard to write email responses for scheduling appointments, allowing him **to focus more on executive assignments.**



Provost

Louisiana State University's Provost generated a syllabus for an [interdisciplinary AI course](#) in **one hour as opposed to an entire workday** using ChatGPT.



Marketing Officer

A marketing officer at Southern New Hampshire University used ChatGPT to write a commercial script, **drastically cutting time and money spent in production.**



President

A president used ChatGPT to write his 2023 commencement address, which **required minimal edits to personalize.**

1) Anonymized institution.

Technology Giants Brings AI to Everyday Tool Suites

25

Microsoft and Adobe Make Broad AI Capabilities Accessible to Campus

Copilot Brings AI to Microsoft 365 Office Tools



Enhance your document with additional detail and generate summaries



Build custom images for slides and create summaries of presentations



Analyze data, surface trends, and generate data visualizations



Draft emails, summarize conversations, and organize inbox automatically

Adobe Firefly Boosts Creativity with Generative AI



Level up your social media posts, posters, flyers using text prompts to create images



Transform your images and bring them closer to what you envision by editing image elements



Elevate and refine work output with by applying color variations and themes



Augment existing or generate new images through simple text prompts

Private Sector Deploying Specialized AI Tools

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Morgan Stanley

Financial Expertise

Morgan Stanley deployed OpenAI's GPT-4 to power an **internal CAI¹ bot** designed to enhance the accessibility of its vast content library and **support its financial advisors**.

Training Details:

- GPT-4 trained on 100,000 Morgan Stanley bank and research documents (e.g., market research, analyst insights)
- Feedback from 200+ daily employee interactions is used to improve the model

Capabilities:

- **Answer general business inquiries** (e.g., who are our market competitors?)
- **Answer role-specific process questions** (e.g., how do I include an IRA in a trust?)
- **Provide investment recommendations** tailored to client profiles



Tax, Legal, and HR Insights

PwC partnered with Harvey, which is built on OpenAI and ChatGPT technology, to develop **domain-specific models** to support its staff's **tax, legal, and HR work**.

Training Details:

- Model trained on general legal data (e.g., case law) and Harvey's specialized knowledge bases
- PwC further trained the model with its tax and legal data and policies

Capabilities:

- **Perform contract analysis** (e.g., identify and summarize contract obligations)
- **Conduct due diligence** (e.g., investigate a firm for an M&A)
- **Offer legal insights** staffers can share with clients

Source: OpenAI, "[Morgan Stanley wealth management deploys GPT-4 to organize its vast knowledge base](#)", OpenAI, March 14, 2023; PwC Global, "[PwC partners with OpenAI and Harvey to build domain specific foundation models](#)" PwC, October 26, 2023; EAB interviews and analysis.

1) Conversational AI.

Universities Placing AI Bets to Cut Costs



AI Staff Productivity Boons Throughout Departments

Modest Bets to Augment

Admissions

Maryville University used Sia to automate transcript review, affording 14 admissions counselors **50% more time to build deeper relationships with students** through online and social media campaigns

Procurement

University of Florida uses AI tools to review contracts and ensure regulatory compliance in a matter of **minutes instead of hours**

Big Bets to Replace Staff

Registrar

By automating **transfer credit evaluation**, Maple University¹ projects being able to achieve a **90% reduction in staff** required for this task

Enrollment Marketing

Maple University¹ projects that they will be able to **cut marketing costs by 40-50%** once they start using AI to help in their marketing campaigns



1) Anonymized institution.

Looking Forward with AI



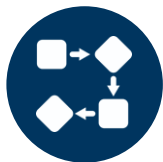
No Longer Viewed as a Corporate Productivity Tool, Every Role Embraces AI



Specialized AI Assistants for Each Department and Role

Faculty and staff departments will provide department- and role-specific AI assistants capable of supporting a variety of use cases to everyone.

- Ex: A contract administrator not only uses their AI assistant to conduct contract review, but to provide insights on past vendor negotiations.



Faculty Research Administration Largely Automated

Faculty will embrace AI solutions that will help them streamline research administration.

- Ex: AI tools generate biotech's and automate completion of grant applications, giving faculty more time for core pedagogical and research activities.

Key Questions For Leaders

- How will you evaluate AI vendor tools and integrations?
- What is the role of IT in enabling faculty and staff AI tool usage?
- What steps need to be taken with faculty and staff to ensure security and data privacy when using AI tools?



AI and the Future of Higher Education

TRANSFORMATIVE OPPORTUNITY



Maximize Enrollment and
Advancement Yield with Hyper-
Personalized Content Generation

4

Personalize Communications With AI

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Progressive Stages of Outreach Personalization

Uniform messaging



Enrollment sends prospects a **mass mailer** with general campus information.

Tailored communication



Enrollment sends tailored emails to **prospect segments** based on students' interests and demographic profiles

Hyper-personalized outreach



Prospects receive **custom outreach** based on academic/personal interests via **preferred modality and communication channel**.

AI Enables Personalization At-Scale By...

- ▶ **Modulating the tone** of outreach based on both the **sender and recipient**
- ▶ **Curating individualized content** based on recipients' background and interests
- ▶ **Generating content across modalities**, whether through a video, infographic, or interactive webinar
- ▶ **Automating** parts of every step of the outreach process **from content creation to delivery**

The Marketing Arms Race's Next Evolution

Use AI to Hyper Personalize and Scale Outreach

Two Ways USC's Annual Giving Team Used AI-Generated Messaging

Improved Yield and Time Savings

1 High-Volume Giving Day Outreach

- Used ChatGPT to generate messages for high-volume annual Giving Day campaign
- Customized messages based on past donor behavior and written in the voice and tone of the giving team



Highest number of Giving Day donors in 6 years

2K

First-time donors

2 Fiscal Year-End Appeals in the Dean's Voice

- Composed 392 appeals written in the voice of Deans from 20+ departments
- Team provided ChatGPT examples of previous Dean's appeals, fund descriptions, and donor history
- Nearly zero edits needed

392

Letters generated in a few hours

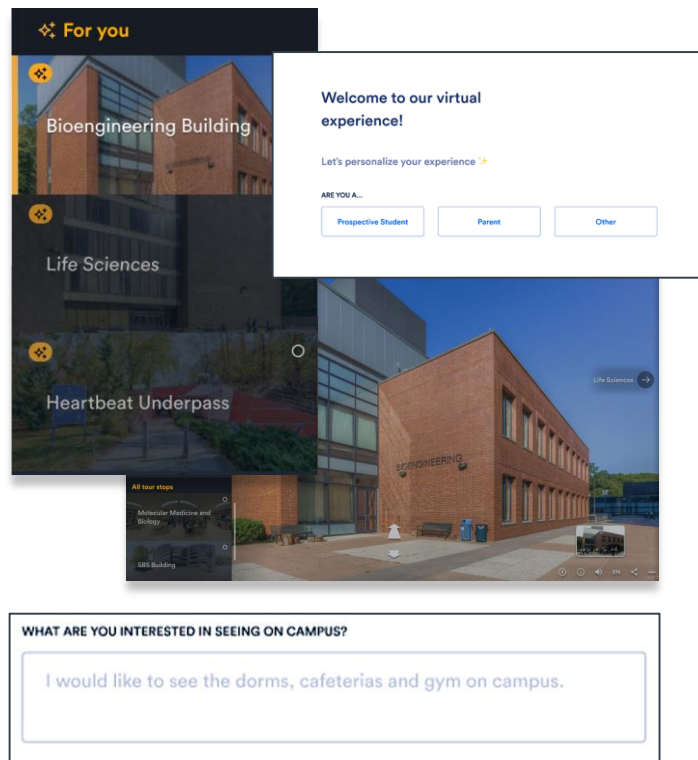
+2

Weeks of staff time saved

AI Takes on Tour Guides

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E360 Tailors Virtual Campus Tours to Student Interests



How E360 Personalizes Virtual Tours with AI

Input: Users shares interests and identifies the type of visitor they are

Generative AI analyzes campus data to prioritize elements, then selects relevant locations and **crafts tour content** accordingly

Output: A multi-stop campus tour specifically structured to users based on expressed interests and needs

**Before
Generative AI**

Visitors followed one set pathway through tour

**After
Generative AI**

Vectorization matches interests with campus spots

Looking Forward With AI



Multi-Modal Connections



Generation of Creative Content Across Modalities

Multimodal LLMs¹ will streamline the institution's production of creative content across modalities at scale.

- Ex: Institutions generate personalized content from video promos to musical jingles, in line with institutional tone and branding.



Automatic Distribution of Personalized Outreach With Minimal to No Review

Advanced AI tools that have been sufficiently fine-tuned and have proper guardrails in place will:

- 1) Generate personalized outreach at scale.
- 2) Automatically send out personalized outreach with no human review.

Key Questions For Leaders

- What existing systems and data sources will be used with AI?
- What regulations should we develop to support using AI to personalize content?
- What training do enrollment and advancement staff need to effectively use AI tools?
- How will humans be kept in the loop when using AI to generate content?

1) Large language model.



AI and the Future of Higher Education

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Transcend the Historical Bounds of
Innovation in Research by Using
AI to Expand Human Capabilities

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The AI Research Gold Rush Begins



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The Promise of AI-Assisted Research Shines Brightly...

MIT Technology Review

DeepMind Has Predicted the Structure of Almost Every Protein Known to Science



Researchers: AI Helps Find Antibiotic to Fight Deadly Superbug

THE NEW YORKER

Can We Talk to Whales? Researchers Say That With Artificial Intelligence – Yes

...While Governments Commit Unprecedented Levels of Funding

U.S.A

- Invests **\$140 million** to establish seven new national AI research institutes after spending **\$3.3 billion** on AI research in 2022

Canada

- Awards nearly **\$1.4 billion** for AI and robotics research in largest-ever federal university grant

U.K.

- Announces **£54 million** investment to develop trustworthy AI research

Germany

- Plans to double public funding for AI research to nearly **€1 billion** over next couple of years

Source: M Heikkilä, "[DeepMind has predicted the structure of almost every protein known to science](#)", MIT Technology Review, July 28, 2022; A Blackwell, "[Researchers: AI helps find antibiotic to fight deadly superbug](#)", CNN, May 26, 2023; E Kolbert, "[Can We Talk to Whales?](#)", The New Yorker, September 4, 2023; C Smith, "[£54 million boost to develop secure and trustworthy AI research](#)", Department for Science, Innovation and Technology, June 14, 2023; N O'Neill, "[Largest-ever federal university grant awarded for AI and robotics research, as part of \\$1.4B fund](#)", CTV News, April 28, 2023; T Escritt & D Syamnath, "[Germany plans to double AI funding in race with China, U.S.](#)", Reuters, August 23, 2023; EAB interviews and analysis.

AI is Changing Research For Good

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University of Florida's Synthetic Data Sets

NVIDIA and **University of Florida Health's** neural network, SynGatorTron, is a 5 billion-parameter language model designed to generate **synthetic patient data** based on health records

- Synthetic patient data mimics real populations and can be used for medical research without the risk or privacy concerns that come with real patient data.

UC San Francisco Takes on Food Deserts



UC San Francisco developed NOURISH, an AI platform that helps **provide access to affordable and healthy food** for people living in food deserts

- NOURISH utilizes AI to match local food growers to meal preparers and high-need consumers, lowering the cost to provide food to low-income communities



University at Buffalo and Speech

SUNY Buffalo is developing an AI tool that **monitors and analyzes children's speech** and language processing abilities in real-time, providing insights to specialists

- **AI Screener:** Assesses speech using live video and audio streams
- **AI Orchestrator:** Monitors children's progress and uses this data to adjust their lessons

University of Kentucky Decodes Ancient Writings



University of Kentucky is **using AI to rediscover ancient texts** previously unreadable due to damage

- This new approach uses AI to differentiate ink from papyrus allowing researchers to read ancient Roman scrolls long thought to be destroyed

Source: D Tonnessen, "[SynGatorTron™ to speed medical research, alleviate privacy worries](#)", University of Florida Health, March 21, 2022; University of Buffalo; J Roake, "[New AI Platform Addresses Challenge of Food Deserts in Low-Income Communities](#)", UC San Diego Today, April 13, 2023; N Wade, [Scrolls That Survived Vesuvius Divulge Their First Word](#)", The New York Times, October 12, 2023; EAB interviews and analysis.

Looking Forward With AI



AI as a Research and Productivity Tool Establishes a Faculty Foothold



AI Infused Across Research in All Disciplines

Faculty will explore AI for research across disciplines as:

- 1) Faculty see how AI can enable new types of research previously not possible throughout disciplines.
- 2) Research leadership drives faculty AI use in research to remain competitive for funding.



Fluency With AI Tools Becomes a Fundamental Research Skill

Due to widespread AI applications and research opportunities, faculty will need to know how to use AI tools.

- Ex: How faculty today must have some level of competence with statistics regardless of field.

Key Questions For Leaders

- What role does IT play in enabling and providing ongoing support for future AI research?
- What infrastructure investments (e.g., data storage, AI tool licenses) investments does our institution need to make to prepare for this future?
- To what extent can and should IT help train faculty on AI tools and models?
- Are there state, federal, or grant-specific AI regulations that we will need to consider in the future?

Understanding the Future of AI in Higher Education

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Five Ways in Which AI Will Shape Tomorrow's Campuses

1

Personalized Support



AI will drive **personalization for everyone** – from tailoring student support and marketing content to each student to providing all staff role-specific AI assistants.

2

Productivity Gains



AI will usher in a **new era of productivity**, saving everyone from faculty to staff time so that they can assume new and more strategic responsibilities.

3

Versatile Connections



The ability to interact with AI multi-modally through **voice**, **visual cues**, and **touch** (and AI's ability to respond in kind), will make AI more accessible and widely applicable.

4

AI Use Simplified



AI tools will be designed for **ease**, allowing those **without technical backgrounds** to create new apps in seconds and harness their power in the classroom and beyond.

5

AI Will Be Ubiquitous



From **lecture halls** to **dorm rooms**, AI-driven tools and bots will be seamlessly integrated into **every facet** of the campus.

How EAB Can Help You Address AI Challenges

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EAB's Artificial Intelligence Resources



Board and Cabinet Briefings on AI in Higher Education

Bring these insights to your campus. Equip your cabinet, board, or other stakeholders with a deeper understanding of the AI trends shaping higher ed.



AI Promises Infographic

Learn more about the promises of artificial intelligence by requesting the latest ITSAS infographic from your strategic leader.



AI Strategy Workshop

Prepare your campus for the AI future by participating in a strategy workshop led by EAB experts. Leaders will learn the key elements of AI strategy and begin to apply these lessons and develop a cohesive AI strategy for their own institution.

Presidential Experience Lab: Artificial Intelligence and the Future of Work

June 4-5, 2024 | Silicon Valley

- Have your Presidents join us as we visit cutting edge technology companies and hear from leading academic practitioners to see how AI is already disrupting the future of work.



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Charting a Path Forward With AI

41

Top-Of-Mind Questions for University Leaders Across Strategic Priorities



President

- Where do we need to invest and how soon?
- Where are the risks I need to be aware of and mitigate?
- Who's moving the fastest, who are the leaders in the AI space?
- How can AI augment our ability to reach best-fit students, world-class faculty, and research dollars?
- What impact will AI have on our campus culture? How can we preserve our high-touch culture?



Provosts

- How can AI help free up faculty and staff time so they can focus more on supporting students, especially considering post-pandemic mental health concerns?
- How do we adapt our curriculum and prepare our faculty across disciplines?
- How can we deploy AI to help us proactively manage our program portfolio and effectively intervene to support at-risk students?



Chief Business Officers

- What AI solutions have the most transformative potential to drive operational efficiency?
- How should we be thinking about investments in generative AI capabilities?
- How can we use AI to improve persistence and predictability of net tuition revenue?
- Can we use AI to do the work of hard-to-fill, expensive roles?



Chief Information Officers

- How should we integrate AI into operations: leverage vendor products with AI features, use OpenAI API, or self-host open-source models?
- How will AI impact our cybersecurity and privacy risk environment?
- What foundational elements do we need (e.g., staffing, data, storage) to support AI innovation?

Charting a Path Forward With AI

Top-Of-Mind Questions for University Leaders Across Strategic Priorities



Enrollment Teams

- How will AI disrupt what students and prospects expect from us? And what's the timeline for these disruptions?
- What is the risk of not embracing AI from a competitive lens?
- What does responsible use of AI in enrollment functions (e.g., marketing, admissions, financial aid) look like?



Student Success Teams

- How will AI impact the classroom experience and student employability?
- Where should we invest/what AI solutions have the most transformative potential to help our students?
- In what ways can AI help us more proactively and effectively intervene to support at-risk students?
- How do we prepare students to employ AI tools while contending with its hallucinations and biases?



Data Management Teams

- Can AI improve the management, integration, and utilization of vast amounts of educational data?
- How will the emergence of AI require us to rethink fundamental data management models (e.g., governance structures, storage)?
- How can AI help us transform raw data into actionable insights to support decision-making at all levels?



Risk Management Teams

- What will AI's regulatory landscape look like in the coming months/years? How do we prepare?
- What steps can we take to mitigate the cybersecurity and privacy risks associated with AI?
- How do we adequately vet vendors incorporating AI to maintain our security posture?
- Can we be held liable for any inaccurate/harmful responses AI tools might produce?