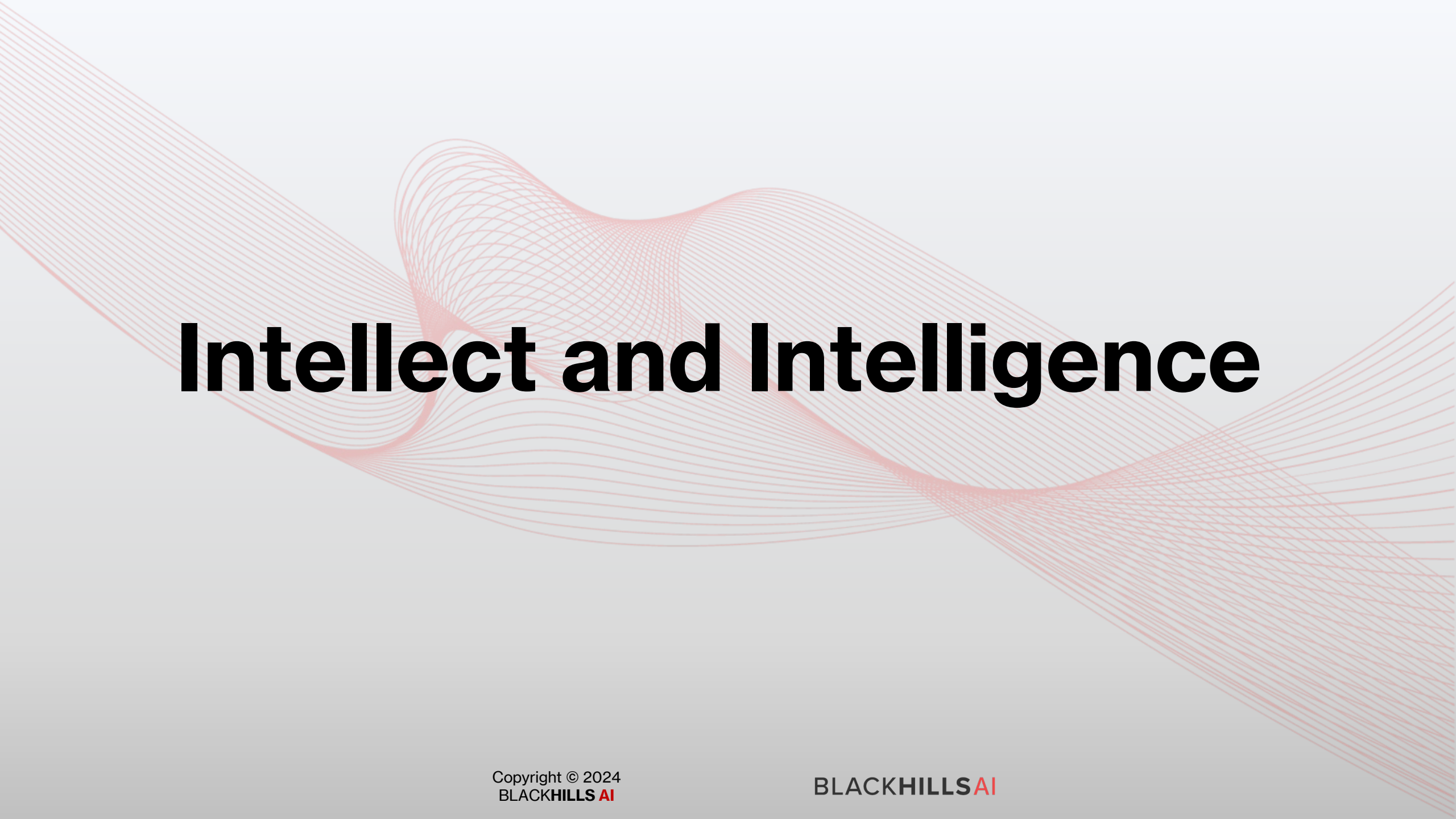
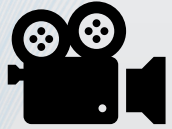


The background features a series of thin, flowing red lines that create a sense of movement and depth, resembling a stylized wave or a complex, organic form. The lines are more densely packed in some areas, creating a mesh-like effect, while in others, they are more sparse. The overall color palette is a gradient of light gray to white, providing a clean and modern aesthetic.

Intellect and Intelligence

Before We Get Started



Recording

A link to the recording and slides will be emailed to all registrants.



Recording

Type in the question box, and we will answer in real time or during the Q&A.



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Panel



Jim Hallenbeck

Chief Executive Officer and
President,
Black Hills AI



Brandon Keaveny

Chief Executive Officer and
Principal Consultant,
Data Ethics LLC



François-Xavier LeDuc

CEO & Co-Founder, DeepIP



Thomas Marlow

President, Black Hills Renewals
Chief Technology Officer, Black
Hills AI



Manjeet Rege

Director of Center of Applied
Artificial Intelligence and Professor,
University of St. Thomas
Advisor to Black Hills AI

AI Bias

- Man : Woman as Father : ? Mother
- Man : Woman as King : ? Queen
- Man : Computer Programmer as Woman: ? Homemaker

[Bolukbasi et al. (2016), Man is to Computer Programmer as Woman is to Homemaker? Debiasing Word Embeddings]

AI Bias

- Hiring tool that discriminated against women.
- Facial Recognition working better for light-skinned than dark-skinned individuals.
- Bank loan or Credit approvals.



Apple Card is accused of gender bias. Here's how that can happen

By Evelina Nedlund, [CNN Business](#)

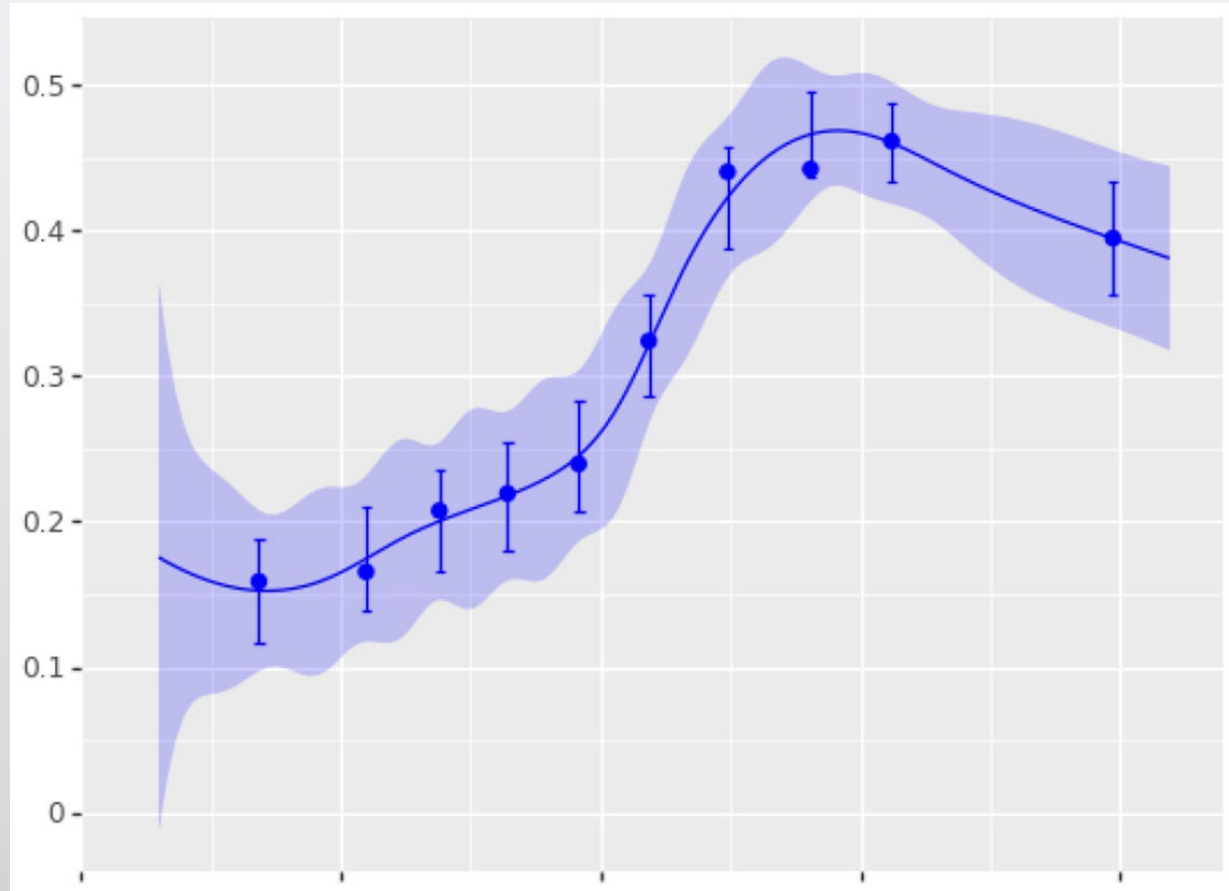
Error Rates in Computer Vision Systems

- By Female by Skin Type

						
	TYPE I	TYPE II	TYPE III	TYPE IV	TYPE V	TYPE VI
	1.7%	1.1%	3.3%	0%	23.2%	25.0%
	11.9%	9.7%	8.2%	13.9%	32.4%	46.5%
	5.1%	7.4%	8.2%	8.3%	33.3%	46.8%

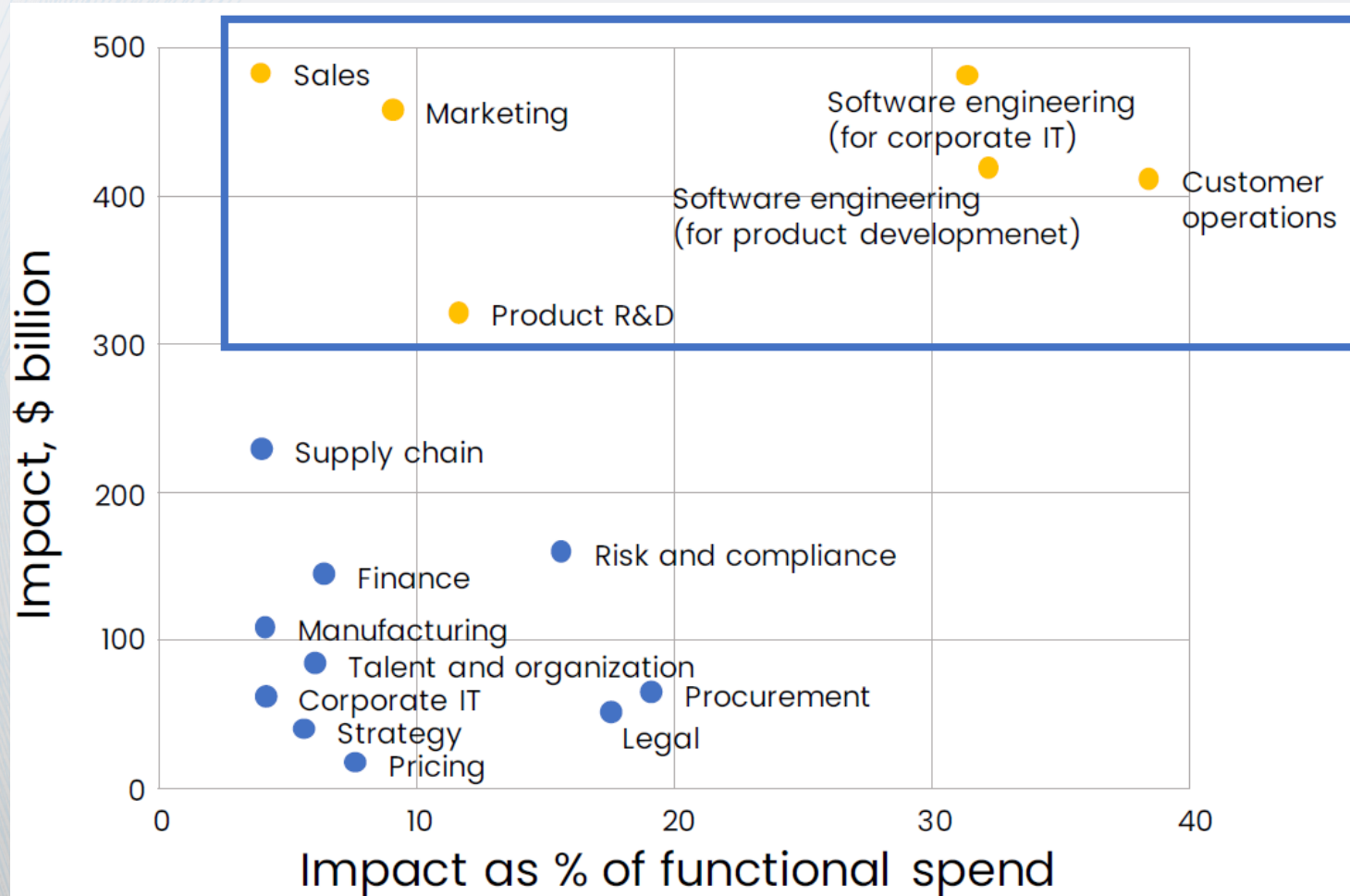
Buolamwini & Gebru FAT* 2018, Slides from Joy Buolamwini

AI and Impact on Jobs



Eloundou, T., Manning, S., Mishkin, P., & Rock, D. (2023). GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models. ArXiv, abs/2303.10130.

Analysis by Functional Role



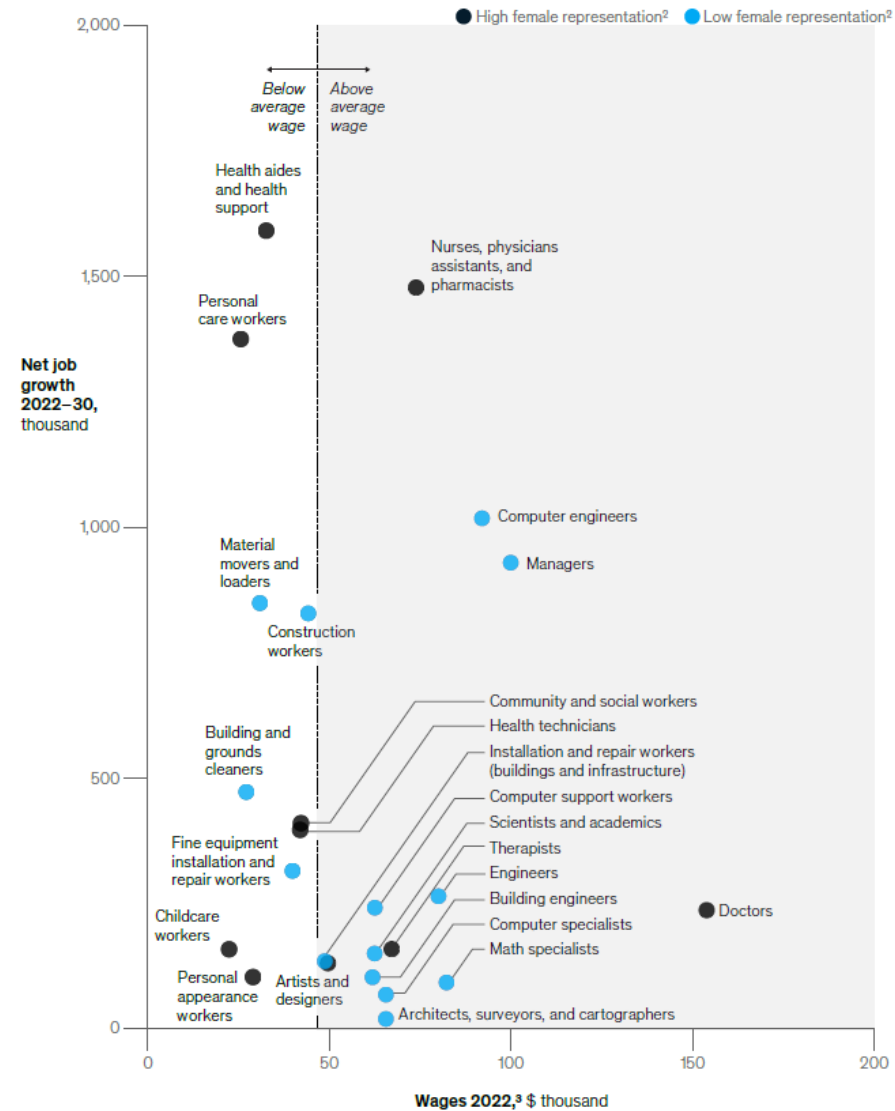
These business areas together represent 75% of total annual impact of generative AI

Source: McKinsey

Women are underrepresented in high-growth and high-wage jobs.

Female representation in occupations projected for greatest job growth, 2022–30, US

Midpoint automation scenario,¹ with generative AI acceleration

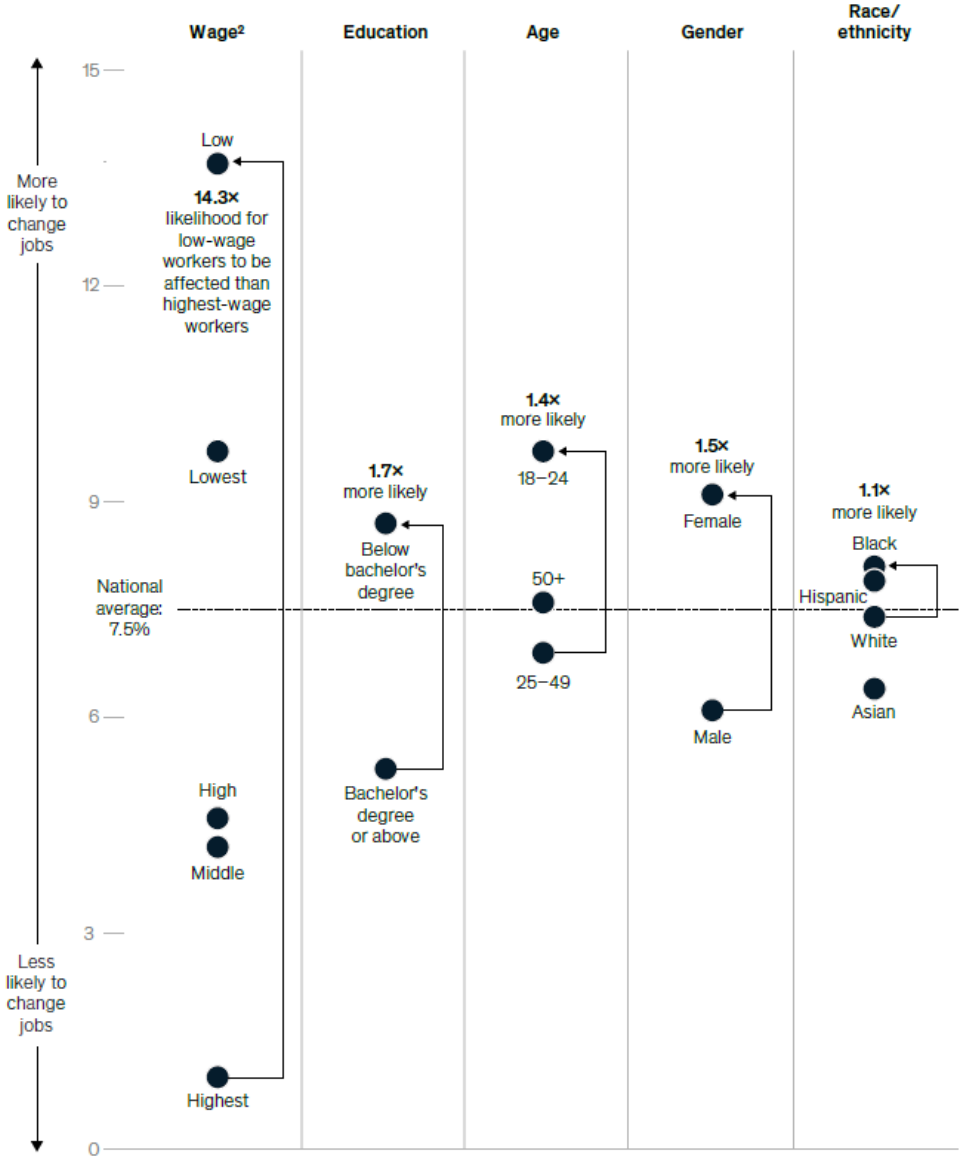


McKinsey Global Institute

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Estimated occupational transitions by 2030, % transition of employment within each category¹
Midpoint automation scenario, with generative AI acceleration



McKinsey Global Institute

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Occupations and Task Exposure to Automation via Generative AI

Office and Administrative Support	46%
Legal	44%
Architecture and Engineering	37%
Life, Physical, and Social Science	36%
Business and Financial Operations	35%
Community and Social Service	33%
Management	32%
Sales and Related	31%
Computer and Mathematical	29%
Farming, Fishing, and Forestry	28%
Protective Service	28%
Healthcare Practitioners and Technical	28%
Educational Instruction and Library	27%
Healthcare Support	26%
Arts, Design, Entertainment, Sports, and Media	26%

"Will Generative AI Disproportionately Affect the Jobs of Women?"
<https://kenaninstitute.unc.edu/kenan-insight/will-generative-ai-disproportionately-affect-the-jobs-of-women/>

Gender Breakdown of 15 Occupations Most Exposed to Automation from Generative AI

Occupation	Total	Women	Men
Management occupations	20.20M	40.5%	59.5%
Office and administrative support occupations	16.10M	71.9%	28.1%
Sales and related occupations	14.32M	49.4%	50.6%
Healthcare practitioners and technical occupations	9.81M	75.7%	24.3%
Education, training, and library occupations	9.22M	73.3%	26.7%
Business and financial operations occupations	9.15M	54.5%	45.5%
Computer and mathematical occupations	6.17M	26.7%	73.3%
Healthcare support occupations	4.93M	84.6%	15.4%
Architecture and engineering occupations	3.46M	16.1%	83.9%
Arts, design, entertainment, sports, and media occupations	3.44M	48.8%	51.2%
Protective service occupations	3.06M	23.2%	76.8%
Community and social services	2.95M	67.2%	32.8%
Legal occupations	1.86M	52.6%	47.4%
Life, physical, and social science occupations	1.84M	48.2%	51.8%
Farming, fishing, and forestry occupations	.98M	26.2%	73.8%
Total	107.49M	58.87M	48.62M
Total of all jobs	158.29M	74.08M	84.21M
Total of jobs impacted / total jobs	68%	79%	58%

Amazon study finds AI skills could boost worker salaries by up to 35%

- The wide-ranging study from AWS surveyed 3,297 employees and 1,340 organizations across the US.
- Over 90% of surveyed employers predicted that they will use AI-related solutions in their organizations by 2028.
- In addition to IT (92%), 85% of employers believe that sales and marketing will be the biggest beneficiaries of AI.
- 42% of employers are actively looking for people with AI qualifications but 75% of employers are having trouble finding qualified candidates



Deep Fakes



My Deepfake



My Deepfake : *Speaking French*



My Deepfake : *Speaking Chinese*



Manjeet's AI Generated Voice



Black Hills AI Song



AI Agents - AI Can Now Control Your Computer



Artificial General Intelligence?



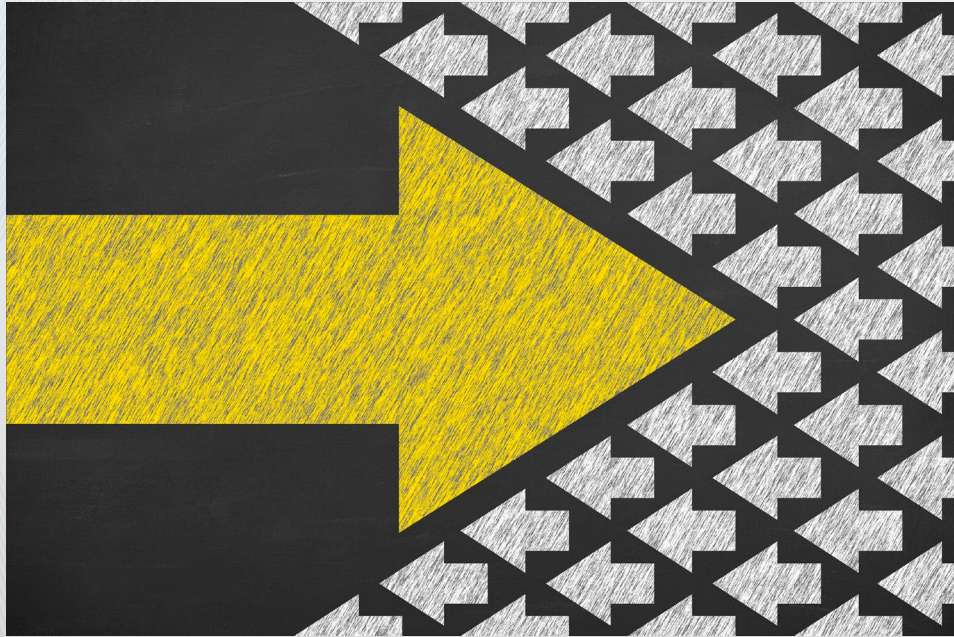
autonomous, 2x speed

π

Artificial General Intelligence & Existential Risk

- We are still far away from achieving AGI.
- The extent of AI's potential to pose an extinction risk is greatly exaggerated.
 - Fear about AI becoming powerful than a single person and being unable to control it?
 - Many things that we may not be able to fully control are very valuable. E.g. airplanes
- Realistic challenges we face: Climate change, Next pandemic, etc.
 - AI could be part of the solution.

AI Ethical Considerations- Two Main Problems



- Integration of multiple AI analysis activities into one solution. (Leads to violation of the EU Act)
- Inability to fulfill rights to privacy action, with particular focus on the right to erasure (right to be forgotten)

AI Ethical Considerations- Two Main Problems

Problem #1: Integration of multiple AI analysis activities into one solution. (Leads to violation of the EU Act)

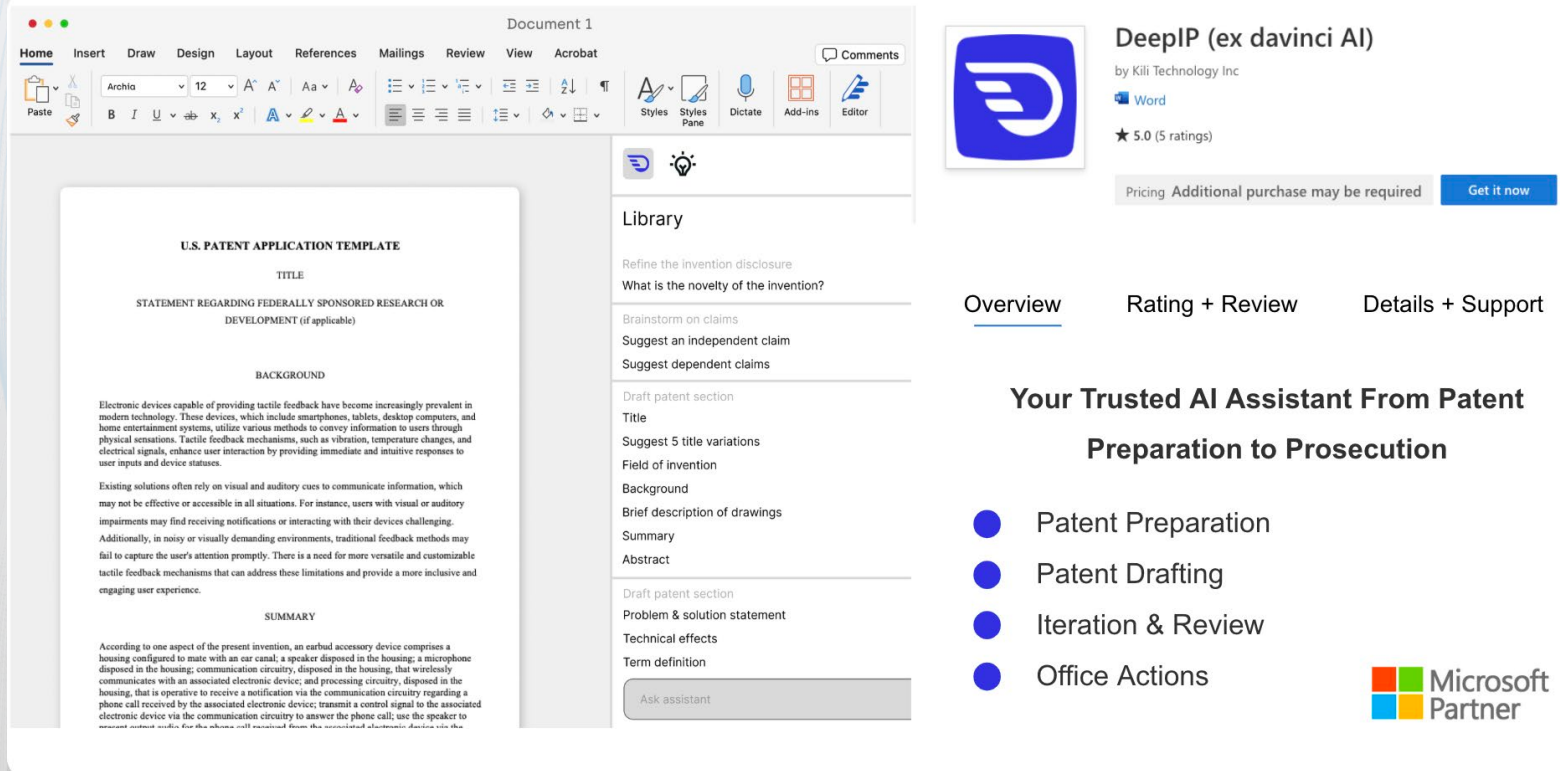
- The EU has banned AI activities in certain areas:
 - Emotional recognition at work or school
 - Behavioral manipulation
 - Scraping of facial images
 - Biometric categorization

AI Ethical Considerations- Two Main Problems

Problem #2: Inability to fulfill rights to privacy action, with particular focus on the right to erasure (right to be forgotten)

- Enter the Blackbox problem, how can an entity fulfill a data subject's request to delete when process of personal data has been done in systems that are not fully understood?

Your Trusted AI Assistant From Patent Preparation to Prosecution



Our users report up to:

50%

Total time saved drafting a patent application

2

Additional daily hours for focused work

90%

Errors & inconsistency reduction with the review assistant

Practical Application of AI – Customer Use Case



CHALLENGES

- Stagnant budgets despite rising demands
- Attorney fatigue
- Shortage of junior attorneys
- Need to meet stricter patentability standards

BENEFITS

1. Efficiency: **Focus on strategic work**
2. Well-Being: **Reduced cognitive strain and increased job satisfaction**
3. Client Value: **Faster turnaround and higher-quality patents.**

Become an AI-Augmented Practitioner



**Work Smarter,
Not Harder**

Save hours spent on
research and gain deep
insights into technical
inventions



**Creativity
Without Limits**

Use AI as your second brain
and never start from scratch
again



**Error-Free Drafting
Made Simple**

Prevent Costly errors and
deliver quality

AI should assist, not replace

Keep Doing

- ☐ Develop AI proficiency
- ☐ Develop your critical thinking
- ☐ Focus on more complex tasks
- ☐ Develop your expertise

Use AI to

- ☐ Automate routine tasks
- ☐ Save hours on simple sections
- ☐ Assist with deep technical knowledge
- ☐ Gain creativity
- ☐ Deliver better quality

Thank you for your interest.

Questions?

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jhallenbeck@blackhills.ai