

THE DAWN OF AI

Welcome to the September 2023 issue of the Adult Advocate Outreach Newsletter. This month, we're navigating the expansive and rapidly evolving world of Artificial Intelligence (AI), with an emphasis on the pioneering women who are making waves in this transformative field. Dive into articles about the rise of AI, the inspirational journey of Fei-Fei Li, activities to inspire students about AI, and a look into the role of machine learning in modern society.

The Rise of AI: Women at the Helm

Artificial Intelligence (AI) has changed the face of technology and is integrated into almost every facet of our modern life. From voice assistants like Siri and Alexa to the recommendation algorithms on Netflix and Spotify, AI is everywhere. While the AI industry is predominantly male-dominated, women have been at the forefront, breaking barriers and pioneering innovations. With the celebration of World Engineers Day and Programmers Day this month, we recognize these women who are engineering the future of AI.

Discover more about the women of AI [here](#).

Beginner's Guide to AI: Navigating the Future

Have you heard of AI but not entirely sure what it encompasses? You're not alone! Let's dive into the basics:

What is AI?

What is AI? At its core, Artificial Intelligence (AI) is a branch of computer science that aims to create machines that can perform tasks that would typically require human intelligence. This includes tasks like recognizing speech, making decisions, and translating languages.

Main Subfields

- **Machine Learning (ML):** A subset of AI where computers are trained to learn from data. Think of it as teaching computers to learn from experience.
- **Neural Networks:** Inspired by human brains, these are algorithms designed to recognize patterns.
- **Natural Language Processing (NLP):** Enables machines to understand/generate human language.
- **Robotics:** Focuses on creating robots that can perform tasks without human intervention.

Societal Impacts of Artificial Intelligence

The potential of AI is vast. While it promises advancements in healthcare, transportation, and energy, there are also concerns. Ethical considerations, job displacements, and data privacy are hot topics in the AI debate. As the role of AI grows, so does the responsibility to use it wisely and ethically.

For newcomers, the world of AI might seem vast and intricate, but with its growing relevance, [understanding its basics](#) is an investment in the future!

Spotlight on AI in Everyday Life: The Invisible Helper

We often hear about AI's grand accomplishments, like beating world champions at complex games or driving cars autonomously. But have you ever considered the smaller, less conspicuous ways AI impacts our daily life? Let's uncover the hidden AI all around us:

Ways You Can Use AI

- **Smart Email Categorization:** Ever wondered how your email service efficiently categorizes emails into 'Primary,' 'Social,' and 'Promotions'? That's AI working behind the scenes to help declutter.
- **Personal Shopping Assistants:** Those product recommendations you see when shopping online aren't random. AI algorithms analyze your behavior and preferences to suggest products.
- **Photo Apps:** Modern photo apps can recognize faces and objects, automatically categorizing and enhancing pictures, thanks to AI-driven image recognition.
- **Voice-Activated Virtual Assistants:** From setting reminders to telling you the weather, virtual assistants like Siri, Alexa, and Google Assistant are AI-powered helpers always ready to assist.

AI's ubiquity proves its transformative nature, seamlessly integrating into our routines and enhancing our experiences in ways we might not always recognize!

Machine Learning: The Magic Behind the Machine

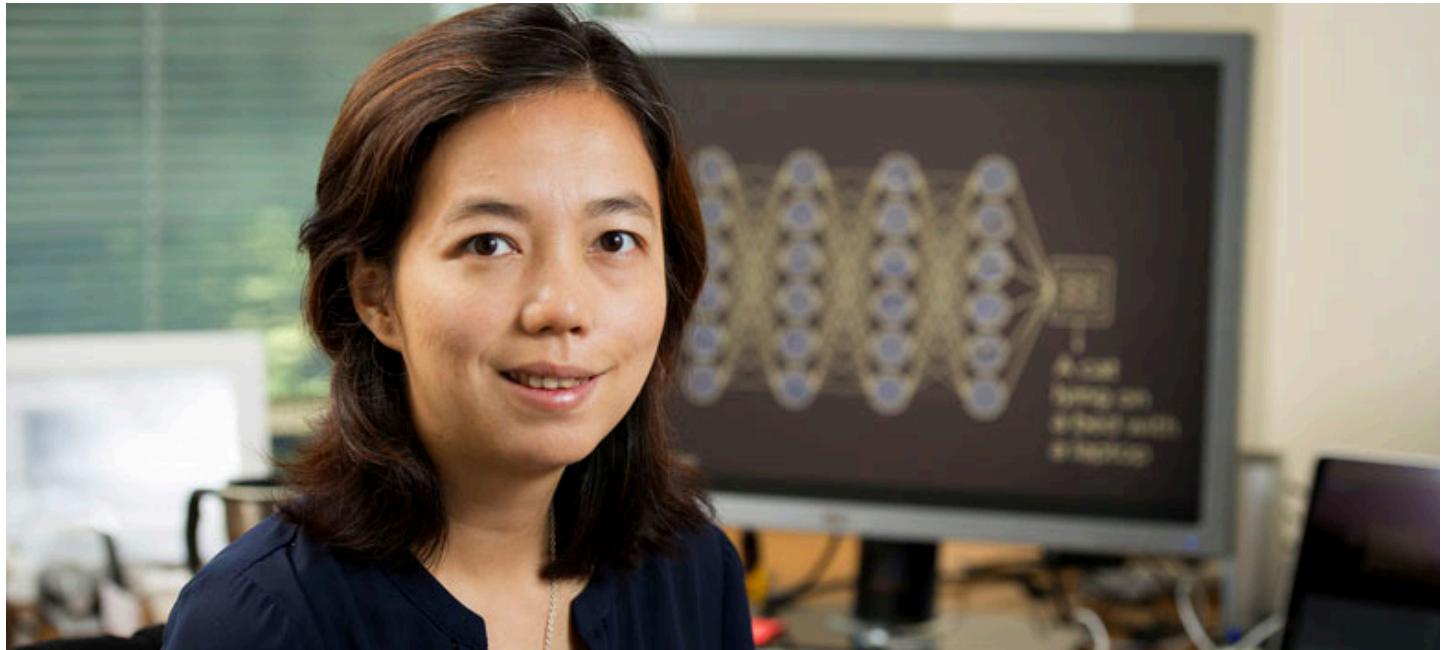
It's more than just code. Machine Learning is the art and science of allowing machines to learn from data. As we approach National Video Games Day, did you know that AI and machine learning are driving the gaming industry? From creating more responsive characters to predicting player actions, machine learning engineers are shaping the future of interactive entertainment. Dive into the world of machine learning here.

Inspiring the Next AI Generation: Tips & Tricks

- **AI Workshops:** Introduce foundational AI concepts with hands-on projects or challenges.
- **Online Tutorials:** Encourage students to explore platforms like Coursera or Khan Academy.
- **Gaming & AI:** Celebrate National Video Games Day by exploring how AI shapes games.

- **Interactive AI Platforms:** Platforms like "Scratch" incorporate AI components that let students create stories, games, and animations. It's an easy and interactive way for them to grasp concepts.
- **Incorporate AI in Other Subjects:** Whether it's predicting weather in Geography using AI or analyzing historical data in History, integrating AI into other subjects can make it more relatable.

Fei-Fei Li: The Visionary Behind Vision AI



Fei-Fei Li's dedication to AI is a testament to the power of vision—both literally and metaphorically. As a co-director of Stanford University's Human-Centered AI Institute and the brain behind ImageNet, a massive visual database that transformed machine learning, Fei-Fei has illuminated the path for AI and women in technology. On Education Technology Day, we remember her contribution in integrating AI into education, making learning more accessible and interactive.

Learn more about Fei-Fei Li and her contributions [here](#).

Did You Know?

- Women make up **only 22%** of AI professionals globally.
- Fei-Fei Li's ImageNet contains over **14 million images**, revolutionizing computer vision.
- By 2025, the AI market is expected to surpass **\$190 billion**.

AI in Academia: Friend or Foe?

The buzz of Artificial Intelligence has tightly gripped academia. With the advent of popular large language models, usage among students is highly significant. It's common that when a disruptive innovation becomes publicly available, there's often a brief period of limited or no regulation. Navigating such uncharted territories is challenging for both policymakers and users. Thus, the continually evolving AI landscape introduces new tools for various purposes. This extends beyond answering complex questions, including tasks like forecasting amidst uncertainty, high-dimensional task scheduling, and allocation.

AI's presence in academia is now more pronounced than ever. The rise of advanced language models like chatGPT, trained on trillions of data points from the worldwide web, has opened doors to opportunities and challenges. While some view the positive potential of incorporating AI tools for enhanced learning, concerns are raised about potential misuse by students to bypass traditional assignments. These technologies provide strong support for tasks like acting as personal assistants or code debuggers. However, excessive reliance, making them central to students' daily tasks, raises concerns about academic integrity and learning loss.

Additionally, an ethical gap arises due to unequal access to these AI opportunities, affecting those unaware or lacking access. Integrating these advanced tools into regular curricula demands special attention from faculty, universities, and policymakers. Efforts are necessary to understand the technology and its negative use cases in academia. AI's role in academia—personalized learning, research support, and course management—is undoubtedly valuable. Yet, vigilance is essential to preserve academic integrity, critical thinking, and diverse perspectives. Balancing AI's potential with clear usage boundaries is crucial to ensure it remains a valuable asset in education.

Join SWENex



Do you have a passion for inspiring the next generation of future engineers? SWE's pre-college program, [SWENext](#), will be hosting the premier live STEM event, [Invent It. Build It.](#) at WE23, on Saturday, Oct. 28 from 9:00 a.m.-12:30p.m.! We need volunteers like you to make a lasting impression on students to know what an engineer looks like. Help us make a difference in the landscape of STEM by joining us on Saturday of the annual conference as a volunteer. Not only will you have a feel-good experience, but you will be eligible for up to a 75% post-conference registration refund. Don't wait another minute — sign up today!

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