



**LOS ANGELES COUNTY**  
ECONOMIC DEVELOPMENT CORPORATION  
*Collaboratively Advancing Growth and Prosperity for All*

# Key Takeaways

## LARC Advisory on AI Tech and Innovation

Strategic Session – 10/20/25





# Summary

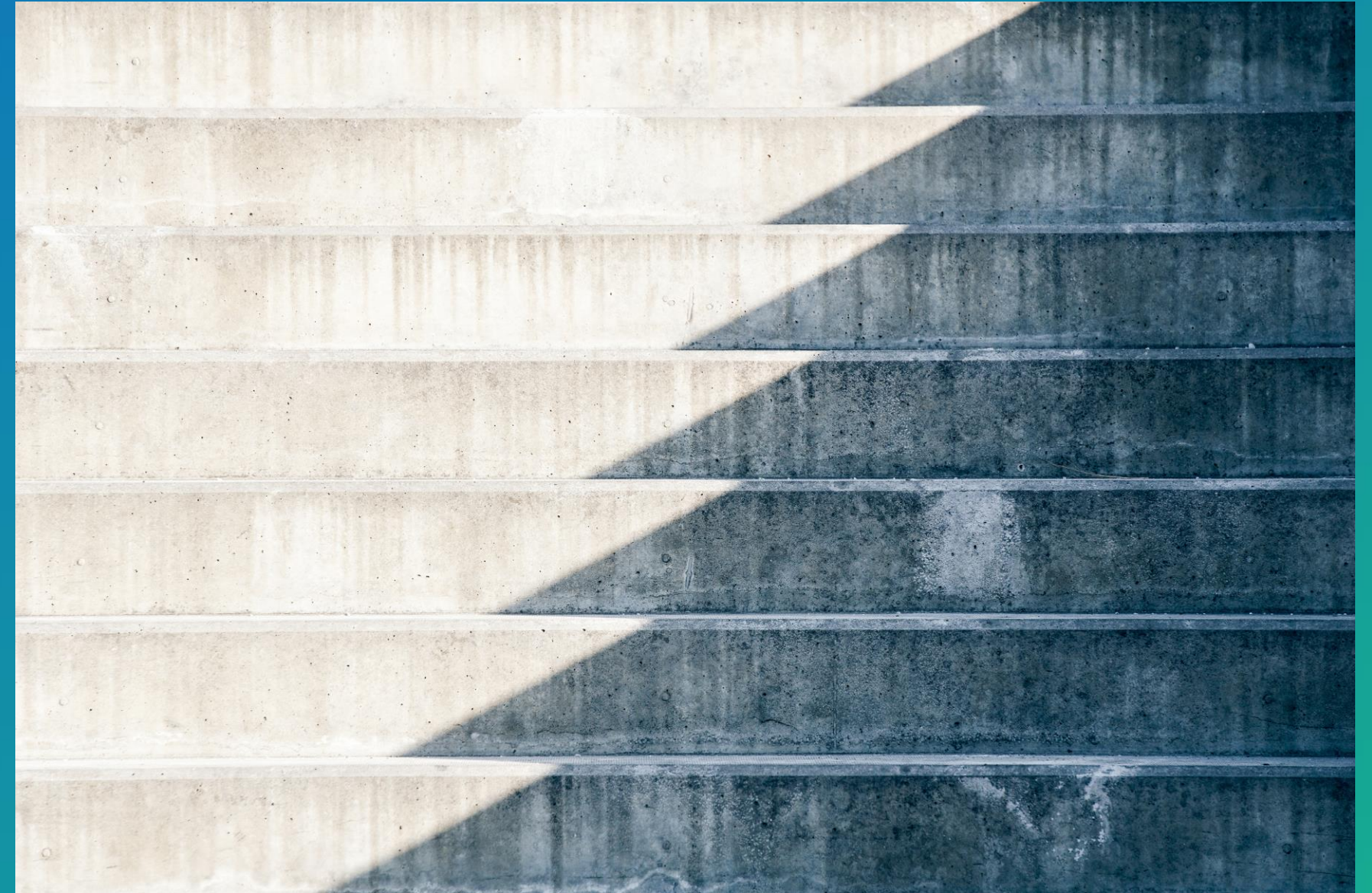
- AI is primarily augmenting, not replacing, middle-skill jobs, with a tenfold increase in AI-related job postings since 2015.
- Industry has moved AI from the experimental phase to full production, using it for advanced applications like predictive analytics and hyper-personalized training.
- A crucial new competency for the entire workforce is prompt engineering—the ability to craft effective questions to get desired results from AI.
- Foundational human skills are paramount, including critical thinking, ethical judgment, and change management.
- There is a critical need for educational institutions to develop formal AI policies to address safety, privacy, and academic integrity.





# Growth Areas

- **Integration Across All Industries:** AI is no longer a tool for just the tech sector. It's being deeply embedded into manufacturing (predictive maintenance), healthcare (diagnostics), logistics (route optimization), and creative fields.
- **Predictive Analytics in Operations and Education:** This includes forecasting import/export volumes and, within higher education, for student recruitment, enrollment forecasting, and identifying at-risk students to enable proactive support.
- **AI as a Collaborative "Thought Partner":** A sophisticated trend is emerging where professionals use AI not just as a tool to find answers, but as a conversational partner to brainstorm ideas, challenge assumptions, and explore business strategies.
- **AI as an Accessibility Enhancer:** Tools are now capable of automatically generating accurate captions, translating content into multiple languages, and fixing design elements to be compliant, making content more accessible than ever before.





# Workforce Needs

- **AI-Fluent Professionals in Every Role:** The market requires "AI-enabled professionals" in every field. AI fluency is becoming a durable, universal skill like critical thinking, essential for everyone from healthcare technicians to business analysts.
- **Prompt Engineers:** A specific and urgent need has emerged for individuals skilled in prompt engineering—the art and science of crafting effective questions and commands to get accurate, nuanced, and useful results from AI models. Community colleges are already beginning to develop courses on this topic.
- **AI Policy and Ethics Experts:** There is a growing need for professionals who can develop, implement, and oversee institutional AI policies that cover the ethical use of data, privacy, safety, and responsible deployment.
- **Upskilling the Incumbent Workforce:** A critical need exists to provide accessible and continuous training for current employees. The recommended approach is not lengthy, one-time sessions but bite-sized, regular "snippets" of learning to keep skills current.



# In Demand - Soft skills and Credentials

## Technical Skills

- **Prompt Engineering:** The most emphasized new skill. It involves the ability to structure queries, provide context, and interact iteratively with AI to achieve a desired outcome.
- **Data Analytics & Interpretation:** The ability to use AI dashboards and validate data against "hallucinations," translating AI-driven insights into actionable decisions.
- **AI/ML Platforms & Certifications:** Familiarity with major cloud-based AI platforms from vendors like AWS and Microsoft. Industry-recognized certifications, like the AWS AI Practitioner certification, are recommended for faculty and professionals.

## Soft Skills

- **Critical Thinking & Validation:** The most crucial human skill. It is the ability to analyze, question, and verify AI-generated content, recognizing that AI is a fallible tool that requires human judgment.
- **Ethical Judgment:** The ability to understand and navigate the ethical implications of AI, especially concerning data privacy, intellectual property, and potential biases.
- **Adaptability & Flexibility:** Recognizing that not all work environments will be at the cutting edge of AI, and having the foundational, non-AI skills to function effectively in any setting.





# Challenges

**Need for Institutional AI Policies:** A major challenge for educational institutions is the lack of formal policies governing AI use. These policies are needed to address not only academic integrity but also critical issues of data privacy and safety, such as preventing sensitive student information from being entered into public AI models.

**Authenticity and Plagiarism:** A significant challenge in both education and hiring. Students using AI to complete assignments and job applicants using it to write resumes are creating a wave of generic, indistinguishable work that is difficult to evaluate for genuine understanding or skill.

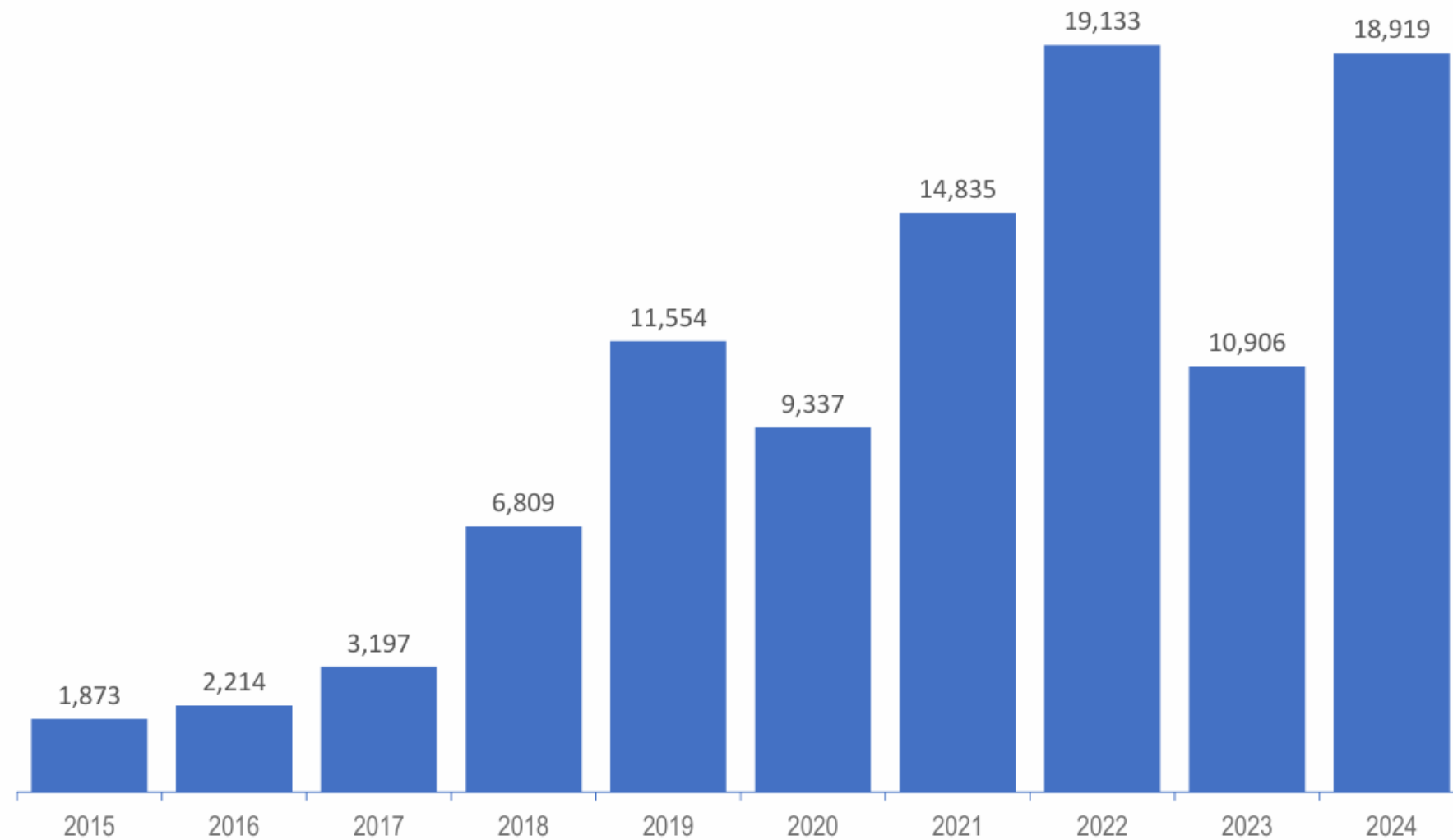
**Faculty Resistance and the Need for Support:** Some educators are resistant to adopting AI, viewing it primarily as a tool for cheating. Overcoming this requires institutional support, professional development, and empathy for the fact that integrating AI requires significant work to redesign assignments and teaching methods.

**Ensuring Accessibility (ADA Compliance):** While AI can be a tool for accessibility, institutions face the challenge of ensuring that any AI platform required for student use is fully ADA compliant.

**Legal and HR Liability:** A growing concern is accountability. If an AI tool generates a document with an error, a biased statement, or a legal violation, it creates a complex liability challenge for the organization.

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AI-Related Job Postings  
Los Angeles County 2015-2024



Source: Lightcast

## Current Landscape

- In 2015 there were fewer than 1,900 AI-related job postings
- In 2024, more than 18,900 job postings, **a tenfold increase**
- Peak occurred in 2022 with over 19,000 postings
- Dip in 2023, but strong rebound in 2024
- Consistent upward trend since 2018
- AI adoption continued even during job market downturns



AI Trends in Middle-Skill  
Occupations

Key Insights:

- AI is increasingly relevant to **middle-skill jobs**, roles that typically require education beyond high school but below a bachelor’s degree
- AI adoption spans **healthcare, manufacturing, IT, life sciences**, and **creative fields**
- Expanding access to AI training at community colleges can **bridge equity and skills gaps**

AI Trends in Middle-Skill Roles

Top AI-Affected Middle-Skill Occupations in LARC Priority Sectors, 2024		
SOC	Detailed Occupation	2024 Share of AI-Related Job Postings
15-1241	Computer Network Architects	16.4%
15-1244	Network and Computer Systems Administrators	14.9%
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians	8.8%
29-2035	Magnetic Resonance Imaging Technologists	8.5%
19-4099	Life, Physical, and Social Science Technicians, All Other	8.2%
15-1232	Computer User Support Specialists	7.7%
17-3028	Calibration Technologists and Technicians	7.4%
29-2032	Diagnostic Medical Sonographers	6.6%
17-3012	Electrical and Electronics Drafters	6.6%
27-4032	Film and Video Editors	6.1%





## AI Tech and Innovation REGIONAL PROGRAM ADVISORY

## Programs under development

College	Program	TOP Code	Award Type
Cerritos	Applied Artificial Intelligence	0799.00 - Other Information Technology	Certificate
Long Beach City	Applied Artificial Intelligence	0706.00 - Computer Science (Transfer)	A.S.-Transfer
Long Beach City	AI Literacy: AI & Machine Learning Foundations	TBD	Certificate
Long Beach City	AI Literacy: Fundamentals of Generative AI	TBD	Certificate
Long Beach City	AI Professional	TBD	A.S. Degree & Certificate
Mt. San Antonio	Supply Chain Management*	0510.00 - Logistics and Materials Transportation	Certificate
Pasadena City	Artificial Intelligence & Machine Learning (AI/ML)	0799.00 - Other Information Technology	A.S.-Transfer & Certificate

\*Mt. SAC's Supply Chain Management certificate program will incorporate essential hard skills such as cloud computing, data analytics, blockchain, and artificial intelligence.



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## Courses Offered

College	Program	TOP Code
L.A. Pierce	Managing Windows with Azure	0702.00 - Computer Information Systems
L.A. Southwest	AZURE AI FUNDAMENTALS	0707.30 - Computer Systems Analysis
L.A. Southwest	AZURE DATA FUNDAMENTALS	0707.30 - Computer Systems Analysis
L.A. Southwest	MICROSOFT AZURE FUNDAMENTALS	0707.30 - Computer Systems Analysis
Long Beach City	Fundamentals of Generative AI	0702.10 - Software Applications
Long Beach City	Fundamentals of Generative AI	0702.10 - Software Applications
Mt. San Antonio	AI for the Workplace	4930.12 - Job Seeking/Changing Skills
Mt. San Antonio	Generative Artificial Intelligence, Large Language Models, & Natural Language Processing in Business	0799.00 - Other Information Technology
Santa Monica	Data Science on Azure	0707.00 - Computer Software Development
Santa Monica	Generative Artificial Intelligence Fundamentals	0707.00 - Computer Software Development
Santa Monica	Introduction to Creative Coding and Generative Art	1002.00 - Art
Santa Monica	Microsoft Azure Database Essentials	0707.20 - Database Design and Administration
Santa Monica	Microsoft Azure Essentials	0702.00 - Computer Information Systems
Santa Monica	Teaching in the Age of AI: Strategies for Educators	0860.00 - Educational Technology



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# Call to Action

- **Prioritize Ethical Implementation:** Establish clear ethical guidelines and governance to ensure AI is used responsibly and serves the public good, focusing on the "humanity that guides it."
- **Champion Irreplaceable Human Skills:** Integrate training for critical thinking, ethical judgment, and creative problem-solving into all workforce development programs, treating these skills as essential complements to AI proficiency.
- **Promote an "AI Augmentation" Approach:** Frame AI education around its role as a powerful tool that augments human capabilities, not as a replacement for them, to foster a positive and adaptive mindset.