STEM Careers Coalition™

CAREER PROFILE

Senior Principal Researcher, Artificial Intelligence

JOB OUTLOOK[5]

The computer and information research science field is growing rapidly, and employment in this industry is projected to grow much more quickly than the average for all occupations. Qualified individuals are likely to have excellent job prospects. As demand for advanced technology and artificial intelligence grows, there are likely to be research opportunities in artificial intelligence across new industries, meaning researchers will have the opportunity to help solve a wide range of problems using AI. However, this is a highly specialized career path, so the total number of job opportunities will remain low.

SALARY RANGE[6]

$118,000–$183,000

WHO ARE THEY?[1,2]

A senior principal researcher, artificial intelligence, is a curious and driven professional interested in defining the future of artificial intelligence. Artificial intelligence (AI) concerns the concepting and development of computer systems that are able to perform human tasks—like the speech recognition function on your smart phone and your streaming service's ability to predict the next show you would love to binge. This is a career that will be pursued by a highly educated individual who is passionate about finding new realities and has dedicated their life to pushing past the limits of the world's existing technology. They have an advanced understanding of the theory behind artificial intelligence, machine learning, and statistics, and they may have significant experience applying that research to solve real-world problems.

WHAT DO THEY DO?[1,3,4]

A senior principal researcher, artificial intelligence, creates their own research agenda, meaning they have the flexibility to imagine the next world-changing application of artificial intelligence and figure out how to bring it to life. They will also collaborate closely with other researchers and experts in subfields of AI, including planning, machine learning, and human-computer teamwork. At Microsoft, senior principal researchers in artificial intelligence also spend a lot of time thinking about the ethics of creating artificial intelligence and the relationship between people and technology. Leaders in the field from across Microsoft make up the AI and Ethics in Engineering and Research (AETHER) committee, which thinks about implications related to bias, fairness, and safety, among many other considerations. They help to build the policies that will guide Microsoft's development of new artificial intelligence in a way that will ensure it can solve big problems without also risking harm to society or individuals.

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CAREER PROFILE

Senior Principal Researcher, Artificial Intelligence

EDUCATION/ TRAINING

- Bachelor's degree in computer science or a related STEM field
- Master's degree or doctorate in computer science or a related STEM field
- Advanced research skills demonstrated in journal and/ or conference publications

HOW DO I BECOME ONE?[1,5]

A senior principal researcher, artificial intelligence, will need at least a master's degree and may even need a Ph.D. A degree in computer science, electrical engineering, statistics, mathematics, or a related field will help prepare you for this role. To find success in this career, individuals will also need to have strong communications skills, excellent analytical skills, critical thinking, and the ability to be highly self-motivated. Math skills will be very important, so students interested in this career should strive to excel in the most advanced mathematics courses available.

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[1] "Principal Researcher." Microsoft. https://careers.microsoft.com/us/en/job/750258/Principal-Researcher.
[2] "10 Powerful Examples of Artificial Intelligence in Use Today." Forbes. https://www.forbes.com/sites/robertadams/2017/01/10/10-powerful-examples-of-artificial-intelligence-in-use-today/#6d8f3cfa420d.
[3] "Ece Kamar: Principal Researcher." Microsoft. https://www.microsoft.com/en-us/research/people/eckamar.
[4] "Advancing Human-Centered AI." Microsoft Research Blog. https://www.microsoft.com/en-us/research/blog/advancing-human-centered-ai.
[5] "Occupational Outlook Handbook." U.S. Bureau of Labor Statistics. https://www.bls.gov/ooh/computer-and-information-technology/computer-and-information-research-scientists.htm.
[6] "Occupational Employment Statistics." U.S. Bureau of Labor Statistics. https://www.bls.gov/oes/2018/may/oes151111.htm.

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