

# COMPUTER SCIENCES KICKSTART PROGRAM FOR PROFESSIONALS, CAPSTONE CERTIFICATE

## LEARNING OUTCOMES

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1. Apply foundational programming principles including variables, control flow, data structures, and modular design—to write, test, and debug simple software programs.
2. Use computational thinking techniques such as decomposition, abstraction, and algorithmic reasoning to break down real-world problems into implementable steps.
3. Interpret and evaluate common algorithms and data-handling approaches, understanding their basic efficiency trade-offs and appropriate use cases.
4. Explain core concepts of artificial intelligence and machine learning, including how modern models learn from data and how they are incorporated into software systems.
5. Integrate API-based or off-the-shelf AI tools into small software applications while understanding their capabilities and limitations.
6. Demonstrate best practices in software development, including version control, documentation, testing, and collaborative workflows relevant to professional environments.