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Titolo	Python Debugging for AI, Machine Learning, and Cloud Computing : A Pattern-Oriented Approach / / by Dmitry Vostokov
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Nota di contenuto	Chapter 1: Fundamental Vocabulary -- Chapter 2: Pattern-Oriented Debugging -- Chapter 3: Elementary Diagnostics Patterns -- Chapter 4: Debugging Analysis Patterns -- Chapter 5: Debugging Implementation Patterns -- Chapter 6: IDE Debugging in Cloud -- Chapter 7: Debugging Presentation Patterns -- Chapter 8: Debugging Architecture Patterns -- Chapter 9: Debugging Design Patterns -- Chapter 10: Debugging Usage Patterns -- Chapter 11: Case Study: Resource Leaks -- Chapter 12: Case Study: Deadlock -- Chapter 13: Challenges of Python Debugging in Cloud Computing -- Chapter 14: Challenges of Python Debugging in AI and Machine Learning -- Chapter 15: What AI and Machine Learning Can Do for Python Debugging -- Chapter 16: The List of Debugging Patterns.
Sommario/riassunto	This book is for those who wish to understand how Python debugging is and can be used to develop robust and reliable AI, machine learning, and cloud computing software. It will teach you a novel pattern-oriented approach to diagnose and debug abnormal software structure and behavior. The book begins with an introduction to the pattern-oriented software diagnostics and debugging process that, before performing Python debugging, diagnoses problems in various software artifacts such as memory dumps, traces, and logs. Next, you'll learn to use various debugging patterns through Python case studies that model abnormal software behavior. You'll also be exposed to Python

debugging techniques specific to cloud native and machine learning environments and explore how recent advances in AI/ML can help in Python debugging. Over the course of the book, case studies will show you how to resolve issues around environmental problems, crashes, hangs, resource spikes, leaks, and performance degradation. This includes tracing, logging, and analyziing memory dumps using native WinDbg and GDB debuggers. Upon completing this book, you will have the knowledge and tools needed to employ Python debugging in the development of AI, machine learning, and cloud computing applications. You will: Employ a pattern-oriented approach to Python debugging that starts with diagnostics of common software problems Use tips and tricks to get the most out of popular IDEs, notebooks, and command-line Python debugging Understand Python internals for interfacing with operating systems and external modules Perform Python memory dump analysis, tracing, and logging.