Preface

Bioinformatics is undoubtedly a remarkably fast growing field of research and real-world applications. It is considered to have enormous potential for current and future generations and the development of all of mankind. However, after an initial phase with enthusiasm similar to that during the gold-rush, people have now come to a point where they realize that many problems are still far away from being solved. This obviously comes from the high complexity of these problems, the relatively extensive and expensive equipment which is necessary to perform in-depth investigations, and last but not least, from the interdisciplinary character of this special field.

On the other hand, this interdisciplinary environment of life science, computer science, mathematics, engineering and other disciplines makes the field fascinating and provides a platform for working on the edge of a real breakthrough. As the two components of the name suggest, Bioinformatics deals with the use of computers in biology-related sciences. However, beyond this, the application of biologically inspired information processing on a computer, as covered by the term Computational Intelligence, joins together these two parts in a different but by no means less interesting manner. Computational Intelligence has evolved to a widely utilized and accepted bunch of tools to accompany, improve or even substitute conventional algorithms and information processing procedures. The book combines Bioinformatics and Computational Intelligence, leading to an interdisciplinary cross-fertilization.

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