Record Nr. UNINA990004865560403321 Burger, C.P. Autore Titolo Historisch-kritische Forschungen / von C.P. Burger Amsterdam: J. Mnller, 1891 Pubbl/distr/stampa Descrizione fisica 244 p., 1 c. geogr.; 29 cm Locazione **FLFBC** Collocazione XIII L 13 Lingua di pubblicazione Italiano **Formato** Materiale a stampa Livello bibliografico Monografia Veröffentlicht durch die Königliche Akademie der Wissenschaften in Note generali Amsterdam (al front.). -Record Nr. UNISA996465443103316 **Autore** Uehara Ryuhei Introduction to Computational Origami [[electronic resource]]: The **Titolo** World of New Computational Geometry / / by Ryuhei Uehara Pubbl/distr/stampa Singapore:,: Springer Singapore:,: Imprint: Springer,, 2020 **ISBN** 981-15-4470-0 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (227 pages) Disciplina 004 Soggetti Algorithms Geometry Applied mathematics **Engineering mathematics** Algorithm Analysis and Problem Complexity Mathematical and Computational Engineering

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Nota di contenuto

Chapter 1: Unfolding -- Chapter 2: Basic Knowledge of Unfolding -- Chapter 3: Common Nets of Boxes -- Chapter 4: Common Nets of (Regular) Polyhedra -- Chapter 5: One-Dimensional Origami Model and Stamp Folding -- Chapter 6: Computational Complexity of Stamp Folding -- Chapter 7: Bumpy Pyramids Folded from Petal Polygons -- Chapter 8: Zipper-Unfolding -- Chapter 9:Rep-cube -- Chapter 10: Common Nets of a Regular Tetrahedron and Johnson-Zalgaller Solids -- Chapter 11: Undecidability of Folding -- Chapter 12: Answers to Exercises.

Sommario/riassunto

This book focuses on origami from the point of view of computer science. Ranging from basic theorems to the latest research results, the book introduces the considerably new and fertile research field of computational origami as computer science. Part I introduces basic knowledge of the geometry of development, also called a net, of a solid. Part II further details the topic of nets. In the science of nets, there are numerous unresolved issues, and mathematical characterization and the development of efficient algorithms by computer are closely connected with each other. Part III discusses folding models and their computational complexity. When a folding model is fixed, to find efficient ways of folding is to propose efficient algorithms. If this is difficult, it is intractable in terms of computational complexity. This is, precisely, an area for computer science research. Part IV presents some of the latest research topics as advanced problems. Commentaries on all exercises included in the last chapter. The contents are organized in a self-contained way, and no previous knowledge is required. This book is suitable for undergraduate, graduate, and even high school students, as well as researchers and engineers interested in origami.