

MATLAB® is a trademark of The MathWorks, Inc. and is used with permission. The MathWorks does not warrant the accuracy of the text or exercises in this book. This book's use or discussion of MATLAB® software or related products does not constitute endorsement or sponsorship by The MathWorks of a particular pedagogical approach or particular use of the MATLAB® software.

First edition published 2020

by CRC Press

6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742

and by CRC Press

2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

© 2021 Taylor & Francis Group, LLC

CRC Press is an imprint of Taylor & Francis Group, LLC

Reasonable efforts have been made to publish reliable data and information, but the author and publisher cannot assume responsibility for the validity of all materials or the consequences of their use. The authors and publishers have attempted to trace the copyright holders of all material reproduced in this publication and apologize to copyright holders if permission to publish in this form has not been obtained. If any copyright material has not been acknowledged please write and let us know so we may rectify in any future reprint.

Except as permitted under U.S. Copyright Law, no part of this book may be reprinted, reproduced, transmitted, or utilized in any form by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying, microfilming, and recording, or in any information storage or retrieval system, without written permission from the publishers.

For permission to photocopy or use material electronically from this work, access www.copyright.com or contact the Copyright Clearance Center, Inc. (CCC), 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400. For works that are not available on CCC please contact mpkbookspermissions@tandf.co.uk

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Library of Congress Cataloging-in-Publication Data

Names: Slowik, Adam, editor.

Title: Swarm intelligence algorithms. A tutorial / edited by Adam Slowik.

Description: First edition. | Boca Raton : Taylor and Francis, 2020. |

Includes bibliographical references and index.

Identifiers: LCCN 2020018736 (print) | LCCN 2020018737 (ebook) |

ISBN 9781138384491 (hardback) | ISBN 9780429422614 (ebook)

Subjects: LCSH: Swarm intelligence. | Algorithms. | Mathematical optimization.

Classification: LCC Q337.3 .S9246 2020 (print) | LCC Q337.3 (ebook) |

DDC 006.3/824-dc23

LC record available at <https://lcn.loc.gov/2020018736>

LC ebook record available at <https://lcn.loc.gov/2020018737>

ISBN: 978-1-138-38449-1 (hbk)

ISBN: 978-0-429-42261-4 (ebk)

Visit the Taylor & Francis Web site at

<http://www.taylorandfrancis.com>

and the CRC Press Web site at

<http://www.crcpress.com>