

The Constitution of Algorithms

Inside Technology

Edited by Wiebe E. Bijker, Trevor J. Pinch, and Rebecca Slayton

A list of books in the series appears at the back of the book.

The Constitution of Algorithms

Ground-Truthing, Programming, Formulating

Florian Jaton

The MIT Press
Cambridge, Massachusetts
London, England

© 2020 Massachusetts Institute of Technology

This work is subject to a Creative Commons CC-BY-NC-ND license.

Subject to such license, all rights are reserved.



The open access edition of this book was made possible by generous funding from Arcadia—a charitable fund of Lisbet Rausing and Peter Baldwin.



ARCADIA

A charitable fund of Lisbet Rausing and Peter Baldwin

This book was set in Stone Serif and Stone Sans by Westchester Publishing Services.

Library of Congress Cataloging-in-Publication Data

Names: Jaton, Florian, author. | Bowker, Geoffrey C., writer of foreword.

Title: The constitution of algorithms : ground-truthing, programming, formulating / Florian Jaton ; foreword by Geoffrey C. Bowker.

Description: Cambridge, Massachusetts : The MIT Press, [2020] | Series: Inside technology | Includes bibliographical references and index.

Identifiers: LCCN 2020028166 | ISBN 9780262542142 (paperback)

Subjects: LCSH: Algorithms--Case studies. | Computer programming--Case studies. | Algorithms--Social aspects. | Mathematics--Philosophy.

Classification: LCC QA9.58 .J38 2020 | DDC 518/.1--dc23

LC record available at <https://lccn.loc.gov/2020028166>

To Fanny

Contents

Foreword ix

Acknowledgments xi

Introduction 1

I Ground-Truthing 27

1 Studying Computer Scientists 31

2 A First Case Study 51

II Programming 87

3 Von Neumann's Draft, Electronic Brains, and Cognition 93

4 A Second Case Study 135

III Formulating 197

5 Mathematics as a Science 203

6 A Third Case Study 237

Conclusion 283

Glossary 291

Notes 299

References 325

Index 365

This is a section of [doi:10.7551/mitpress/12517.001.0001](https://doi.org/10.7551/mitpress/12517.001.0001)

The Constitution of Algorithms

Ground-Truthing, Programming, Formulating

By: Florian Jatón

Citation:

The Constitution of Algorithms: Ground-Truthing, Programming, Formulating

By: Florian Jatón

DOI: [10.7551/mitpress/12517.001.0001](https://doi.org/10.7551/mitpress/12517.001.0001)

ISBN (electronic): 9780262363235

Publisher: The MIT Press

Published: 2021

The open access edition of this book was made possible by generous funding and support from Arcadia – a charitable fund of Lisbet Rausing and Peter Baldwin



The MIT Press

© 2020 Massachusetts Institute of Technology

This work is subject to a Creative Commons CC-BY-NC-ND license.

Subject to such license, all rights are reserved.



The open access edition of this book was made possible by generous funding from Arcadia—a charitable fund of Lisbet Rausing and Peter Baldwin.



ARCADIA

A charitable fund of Lisbet Rausing and Peter Baldwin

This book was set in Stone Serif and Stone Sans by Westchester Publishing Services.

Library of Congress Cataloging-in-Publication Data

Names: Jaton, Florian, author. | Bowker, Geoffrey C., writer of foreword.

Title: The constitution of algorithms : ground-truthing, programming, formulating / Florian Jaton ; foreword by Geoffrey C. Bowker.

Description: Cambridge, Massachusetts : The MIT Press, [2020] | Series: Inside technology | Includes bibliographical references and index.

Identifiers: LCCN 2020028166 | ISBN 9780262542142 (paperback)

Subjects: LCSH: Algorithms--Case studies. | Computer programming--Case studies. | Algorithms--Social aspects. | Mathematics--Philosophy.

Classification: LCC QA9.58 .J38 2020 | DDC 518/.1--dc23

LC record available at <https://lccn.loc.gov/2020028166>