# ­­Textbook Marketing Questionnaire

Please complete and return this form electronically.

Please note, Section 1 covers data that is required in order for your book to begin production and will then be shared with external vendors and services (e.g. Amazon). It is essential that any corrections to this data are made immediately, as it will not normally be possible to make changes once data is shared.

Cambridge University Press will market and promote your book globally, and your contacts and subject knowledge can provide an invaluable addition to our marketing expertise. Please complete this Marketing Questionnaire in full, as this document will be used to help inform the marketing activities for your book and is useful to our textbook development and sales teams.

In addition to completing this questionnaire, we welcome further information on a continuing basis that will help with the marketing of your book.

## Section 1: Key book data

This is the key data that identifies your book. This must be confirmed before we begin production and this data is released to third parties, so it is crucial that you check this data now.

This is what we currently hold regarding your data. If you think any of the below is incorrect, then

* For author name corrections, fill in the special section below.
* If you want to request a change to the title please discuss with your Commissioning Editor first. When agreed, please make the edits in the special section below. *(If Cambridge recommend any further edits after you return this form, these will be discussed with you.)*

(Current) Title: Professor, PhD

(Current) All author/editor name(s) as they will appear on the cover of the book and on websites (this is how they will appear with regards to e.g. middle initials, and for multiple authors/editors, they will be in this order):

Ruye Wang

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| x |

No edits required (Please check if all above are correct). Date \_\_\_\_\_\_\_\_\_08/20/2023\_\_\_\_\_

Corrections if applicable:

Title as agreed with Commissioning Editor:

Introduction to Machine Learning: from Math to Code

All author/editor name(s) as they will appear on the cover of the book and on websites (this is how they will appear with regards to e.g. middle initials, and for multiple authors/editors, they will be in this order):

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Section 2: About your textbook

### Your motivation

Please explain, in bullet points, what motivated you to write your book.

* To develop a more suitable textbook for advanced undergraduate students and first year graduate students in all fields interested in machine leaning
* To adopt a different and new teaching strategy that covers the main topics in machine learning in a comprehensive and thorough manner with the emphasis on both the theoretical derivation and ­­
* To provide all background mathematics (in Part I as well as Appendices) together with the discussions of the learning algorithms in the chapters of the main body of the book

### Key features and benefits

Please list the key features of your textbook, and how they will benefit the instructor and student. Think about how your textbook addresses the challenges students encounter on this course, and how it can make teaching and learning more effective. How does your textbook stand out from others written for the same course?

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| --- | --- | --- |
| Teaching/Learning challengesList each key challenge faced by instructors or students on this course. | FeaturesWhat specific feature in your textbook helps to address this teaching or learning challenge? | BenefitsWhat are the benefits of this feature to the student or instructor? |
| *Students struggle to connect the mathematical derivation of the machine learning algorithms with their code implementation.*  | *Include all necessary background mathematics in the book in addition to the coverage of the learning algorithms.*  | *Students will learn not only HOW the algorithms are implement but also WHY they work. They will therefore gain a more thorough understanding of the subject.*  |
| *Not all students interested in machine learning are knowledgeable enough in certain areas of mathematics as the theoretical background of machine learning algorithms, such as multivariable calculus, linear algebra, probability and statistics, numerical methods, and optimization.* | *All these topics in mathematics are covered in the book in Part I in the main text as well as the appendices.*  | *The instructor can selectively cover parts or all such mathematical areas depending on their student’s background, and students can learn or review such topics on their own by studying relevant parts of the book. Both the instructor and student can do so without referring to any additional materials beyond the book.* |
| *Most existing textbooks on machine learning but typically emphasize either the theoretical or the practical aspect of the subject. Their readers may only learn either of the two aspects but not necessarily both. Having studied the subject, they still* *may not be able to gain a thorough understanding of the learning algorithms, or the capability to implement the algorithms by their own code*  | *This book emphasizes both the mathematical background and the code implementation of the learning algorithms. The students are expected to gain insights into the theoretical background of all the algorithms by studying the text, while they are also required to develop their own code to implement the algorithms in the homework problems, as the ultimate test for their understanding.* | *By studying the text, the students will gain a thorough comprehension of the algorithms to learn WHY an algorithm works, and by completing the coding assignment they will also learn HOW the algorithm is implemented.*  |
| *Many students interested in the subject may lack prior experience/knowledge in coding. It may be highly challenging for them to implement the algorithms they have learned.* | *Most algorithms discussed in the book are implemented by the author in Matlab and the essential fragments of the code for each algorithm are provided in the text together with the mathematical derivation of the algorithm.*  | *By studying the provided code in the text, the students will gain more insights and better understand the algorithms in general. In particular, the students lacking prior coding experience will learn how to code in general as well as how to implement a specific algorithm.*  |
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### Your textbook

We market to a wide range of people, who may not have a relevant subject background, such as booksellers and librarians. We will use your comments here to form the basis of various marketing messages.

The hook – in no more than 20 words, please summarise your textbook’s unique selling points. Think about the reasons why an instructor/lecturer would consider moving from their current textbook to your textbook.

*This is a new machine learning textbook with an in-depth coverage of a wide variety of learning algorithms and the emphasis on both the theoretical background and code implementation of these algorithms.*

Bookseller/Librarians description – We use this message in persuading librarians and booksellers that the readers they serve will want your book. In non-technical language describe who your book is for and why it is of value to them. Focus on key words and concepts and use no more than 50 words.

*The book can be used as both a textbook for classroom teaching of machine learning for beginners and a desk reference for anyone interested in machine learning to learn the subject on their own. It is different from most existing books on the subject in that the reader will gain both theoretical insight of the algorithms and practical experience of their implementation.*

Blurb text – in no more than 150 words, please expand on the above, highlighting specific features of your book that will catch the attention of potential adopters and students. We will use this text to help write the back cover blurb, website blurbs, and other marketing pieces.

*This book emphasizes both the theoretical and practical aspects of a wide range of machine learning algorithms and covers all mathematical topics (e.g., linear algebra, probability and statistics, numerical methods, optimization) necessary for the thorough understanding of these algorithms and a large amount of sample code (in Matlab) for their implementation in the main text as well as the additional online materials (appendices, sample code in python, and PowerPoint slides). The book can serve as a textbook for college students (both undergraduate and graduate students) and a desk reference for practicing professionals interested in the subject. Readers with a wide variety of background, such as fields of study, mathematical proficiency, and coding experience, can all use this self-contained book to learn the subject without the need to study any additional references.*

### New edition (where applicable)

If your textbook is a new edition, please tell us exactly what you have changed and updated from the previous edition. Please include specific examples by listing any new chapters, sections, and new or revised features, such as summaries, glossaries, etc.

### Online resources and supplements

We encourage supplying instructors/lecturers and students with appropriate resources to help with their teaching and learning. Please summarise the resources that will be available with your textbook and say how these will benefit the student and/or the instructor who adopts your textbook for their course. For example, if your textbook has extra practice questions online, tell us how this will benefit the student or instructor.

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| --- | --- | --- |
| Description of resource  | How it supports your book | Website link (if applicable) |
| *Two appendices covering essential and relevant topics in linear algebra and probability and statistics* | *Readers can prepare themselves for the study of machine learning by self-studying selected or all topics in the appendices, depending on their prior knowledge and experience, either before or during their study of the learning algorithms.* | *Somewhere on the CUP website* |
| *Samples of python code implementation of most of the algorithms discussed in the chapters* | *Readers will learn from these sample python code how the learning algorithms can also be implemented in another popular language in addition to Matlab* | *Somewhere on the CUP webs* |
| *PowerPoint slides for the main topics in the chapters* | *Based on these slides the instructor can further develop additional ones to be used in their classroom*  | *Somewhere on the CUP webs* |
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## Section 3: The market

The information you provide in this section will ensure the promotion of your book is both relevant and targeted. Please focus on the intended audience for your book, rather than on the book itself.

### Readership

For what courses is your textbook suitable? Please list them here in order of importance.

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| --- | --- | --- | --- | --- |
| Course/Module name(s) | Year/Level | Department | Country | Prerequisites:What academic background do students need?  |
| Main course:*Machine Learning* | *Upper-level (3rd or 4th year) undergraduate or first year graduate level* | *Computer Science, Engineering* | *Any English-speaking country* | *Various level of knowledge in linear algebra, probability and statistics, optimization, computer coding (e.g., Matlab, python)* |
| Other courses:*Artificial Intelligence Data Mining/Science**Statistical Learning* | *Same as above* | *Same as above* | *Same as above* | *Same as above* |

Is your textbook more appropriate for certain regions than for others, i.e., is your textbook written for American, European or Asia-Pacific university courses?

*The book can be used in any English-speaking region in the world.*

Is your book appropriate for a one-semester course, a two-semester course, or both? Please give details.

*The book can be used for either a one-semester course covering only some selected topics/chapters, or a tow-semester course covering the background mathematics (in Part I and Appendices) as well as all main machine learning topics in the chapters.*

Is your book appropriate for any additional audience, such as professionals or general readers?

*The book can be used by practicing professional in both CS and Engineering interested in self-studying the subject of machine learning, but it is not for general readers without necessary technical background.*

### Potential adopters

Do you know of any instructors who may teach the course for which your textbook is intended? We will use this information to contact these people directly and, if applicable, to provide them with the option to receive an examination copy of your textbook.

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| Contact Name | Affiliation | Course name | Contact details | Do you know them personally? |
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Please list more than four if necessary.

### Competition

To help us position your textbook in the market, please give details of competitors’ texts for the same course with a brief explanation of how they compare/differ. Please include the most recent edition and ensure the textbook is currently in print.

Competitor 1

|  |  |
| --- | --- |
| Title  | *Pattern Recognition and Machine Learning*  |
| Author(s) | *Christopher M. Bishop*  |
| Publisher | *Springer* |
| Year of publication | *August 2006* |
| Strengths*In-depth theoretical discussion of the algorithms* | Weaknesses*Lack of coverage of actual code implementation of the algorithms. Students do not learn how the theory can be translated into code implementation.* |
| How does your textbook compare/differ?*My book covers both theoretical background and code implementation of the algorithms* |

Competitor 2­

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| --- | --- |
| Title | *Introduction to Machine Learning with Python: A Guide for Data Scientists* |
| Author(s) | *Andreas Muller, Sarah Guido* |
| Publisher | *O’Reilly Media* |
| Year of publication | *November 2016* |
| Strengths*Emphasis on applications of various machine learning algorithms based on python libraries* | Weaknesses*Lack of coverage of background mathematics necessary for the derivation of the algorithms. (“The authors can present all the important details without using equations.”) Students only learn to use functions in a software package as a backbox without understanding their inner workings.* |
| How does your textbook compare/differ?*My book covers both theoretical background and code implementation of the algorithms* |

Competitor 3

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| --- | --- |
| Title | *Machine Learning for Hackers* |
| Author(s) | *Drew Conway, John Myles White* |
| Publisher | *O’Reilly* |
| Year of publication |  ***2012*** |
| Strengths*Combination of theories, code implementations, and applications* | Weaknesses*Insufficient in-depth discussion of the mathematics underneath the learning algorithms, and lack of a more thorough coverage of additional important learning algorithms in the field.* |
| How does your textbook compare/differ?*My book covers a wide range of learning algorithms with in-depth discussion of their theoretical derivation and specific code implementation.* |

To list additional competing textbooks, please copy and paste the table above.

### Book reviews

We will use our extensive knowledge and experience to send your book to key journals in your subject area. If you would like to highlight the key publications where your book is most likely to gain exposure, please list up to ten below, giving specific names and contact details.

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| Publication name | Contact details  | Country | Publication website |
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### Endorsements

Please supply contact details below for anyone we can contact who might provide an endorsement of your book. Consider as part of this who are the three most influential 'names' in the field, who would help sell the book if they were to write an endorsement?

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| --- | --- | --- | --- |
| Name | Affiliation | Email address  | Do you know them personally? |
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Please list more than four if necessary.

### Conferences

Are there any major conferences or other events (e.g., trade shows, seminars, etc.) at which we can promote your book?

You should also notify us if you are attending any conferences yourself in the list below.

Please note that we are only able to attend a limited number of conferences and events. Where we are unable to attend, we may be able to send flyers.

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| Conference name | Conference contact (if known) | Contact email address (if known) | Conference website | Will you be attending this conference: Yes/No |
| *International Conference on Machine Learning (ICML)* |  |  | *https://icml.cc/Conferences/2023* | *No* |
| *International Conference on Machine Learning and Computing (ICMLC)* |  |  | http://www.icmlc.org/ |  |
| *International Conference on Machine Learning Technologies (ICMLT)* |  |  | http://www.icmlt.org/ |  |
| *International Conference on Machine Learning and Applications* |  |  | https://www.icmla-conference.org/icmla23/ |  |

Please list more than four if necessary.

### Prizes and Awards

Please suggest the most significant prizes and awards for which you think your book should be nominated, in order of importance. Please note that nominations may not always be possible.

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| Prize name | Contact name | Contact email address | Prize website |
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### Social Media

Please detail the types of social media you currently use. We will use this information to help inform our own social media strategy for your title.

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| Social media  | Details of account so we can identify you (e.g. Twitter handle, URL, etc.) |
| Blogs  |  |
| Facebook |  |
| Twitter |  |
| YouTube  |  |
| Google+ |  |
| Pinterest |  |
| LinkedIn |  |
| Your own website |  |
| Any other social media |  |

Would you be interested in writing for our Academic blog, *fifteeneightyfour* ([www.cambridgeblog.org](http://www.cambridgeblog.org))?

YES/NO (please delete as appropriate)

### Extra marketing opportunities:

Please tell us about any other opportunities for marketing your book that have no already been covered, such as listservs, related societies and associations.

### Corporate/Bulk sales

Do you know of any outlets which might be interested in buying multiple copies of your book? This could be an NGO or society, a business, a branch of government or a local bookshop. Sales are more successful when we are given specific contact details, so please provide these if possible.

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| Organisation  | Contact details | Reason for suitability |
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Please list more than four if necessary.

### Foreign publishers/rights

We regularly attend key book fairs to sell translation rights of our titles. If you have any contacts with foreign publishers who might be interested in publishing a translation of your book, please list these below. Please also give the names of foreign publishers who have translated any previous work of yours and provide any suggestions for potential translators.

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| Name | Publisher | Language of translation | Contact details  |
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Please list more than four if necessary.

## Section 4: About you

This section should be completed by all authors/editors. Please copy and paste this page for each person.

### Your details

Full name (required for Library of Congress, not necessarily how your name will appear on your book – see Section 1):

*Ruye Wang*

Date of birth (required for Library of Congress) (please enter in the format of *12 December 1970*):

*23 July 1949*

Your present affiliation (please include your title, department, university/institution/company, etc.):

 *Professor (Emeritus), Engineering Department, Harvey Mudd College, USA*

Do you have an ORCID ID? If so, please enter your ID:

What is ORCID?

ORCID provides a persistent digital identifier that distinguishes you from every other researcher and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between you and your professional activities ensuring that your work is recognised.

If you haven't already done so, we strongly recommend you to register now by visiting www.orcid.org

### Biography

In no more than 100 words, please tell us anything about your professional or personal experience that will further stimulate interest in you and your book. Please do not be overly modest about yourself. Things to include are teaching experience, any awards or prizes you have won, other books you have written, membership of professional associations and societies, or any other information you think would be relevant to readers of your book.

*Ph.D. in Electrical and Computer Engineering, assistant, associate and full professor at Harvey Mudd College for over 30 years, taught a wide variety of CS and Engineering courses (including artificial intelligence, image processing, neural networks, numerical methods, engineering mathematics, and machine learning, amount many others), conducted research and received multiple research grants, published many research papers in a wide range of fields including remote sensing image processing, pattern recognition, visual signal processing and modelling, and neural computation, collaborated with researchers at Caltech and NASA Jet Propulsion Laboratory (JPL), consulted with JPL as a research investigator and the principal investigator of a major NASA research grant, published textbook “Introduction to Orthogonal Transforms: with Applications in Data Processing and Analysis” (Cambridge University Press, 2012)*

Contact details

|  |  |
| --- | --- |
| Your full address where we can send all correspondence (including country)We cannot accept P.O Box addresses | *Ruye Wang* *5591 Mesada Street,* *Rancho Cucamonga, CA 91737**USA* |
| Contact telephone number  | *1-909-541-0832* |  |  |
| Email address |  *rwang@hmc.edu* |
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The information you provide as part of this Questionnaire will enable us to carry out administration, marketing and sales activities for your book. We may transfer your personal details to other regions in which we have offices throughout the world, namely Europe, the Middle East and Africa; the Americas; and Asia-Pacific. You should be aware that some of our branches are in countries which do not have data protection laws. By submitting your information, you consent to the use of your information by Cambridge University Press, the University of Cambridge and its associated companies (a list is available on request) in accordance with this statement.