



# The Bayesian Way: Introductory Statistics for Economists and Engineers

Svein Olav Nyberg

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| E-Book    | 978-1-119-24689-3 | July 2018   |  | <b>\$92.00</b>  |
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## DESCRIPTION

**A comprehensive resource that offers an introduction to statistics with a Bayesian angle, for students of professional disciplines like engineering and economics**

*The Bayesian Way* offers a basic introduction to statistics that emphasizes the Bayesian approach and is designed for use by those studying professional disciplines like engineering and economics. In addition to the Bayesian approach, the author includes the most common techniques of the frequentist approach. Throughout the text, the author covers statistics from a basic to a professional working level along with a practical understanding of the matter at hand.

Filled with helpful illustrations, this comprehensive text explores a wide range of topics, starting with descriptive statistics, set theory, and combinatorics. The text then goes on to review fundamental probability theory and Bayes' theorem. The first part ends in an exposition of stochastic variables, exploring discrete, continuous and mixed probability distributions. In the second part, the book looks at statistical inference. Primarily Bayesian, but with the main frequentist techniques included, it covers conjugate priors through the powerful yet simple method of hyperparameters. It then goes on to topics in hypothesis testing (including utility functions), point and interval estimates (including frequentist confidence intervals), and linear regression. This book:

- Explains basic statistics concepts in accessible terms and uses an abundance of illustrations to enhance visual understanding

- Has guides for how to calculate the different probability distributions, functions , and statistical properties, on platforms like popular pocket calculators and Mathematica / Wolfram Alpha
- Includes example-proofs that enable the reader to follow the reasoning
- Contains assignments at different levels of difficulty from simply filling out the correct formula to the complex multi-step text assignments
- Offers information on continuous, discrete and mixed probability distributions, hypothesis testing, credible and confidence intervals, and linear regression

Written for undergraduate and graduate students of subjects where Bayesian statistics are applied, including engineering, economics, and related fields, *The Bayesian Way: With Applications in Engineering and Economics* offers a clear understanding of Bayesian statistics that have real-world applications.

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## ABOUT THE AUTHOR

**Svein Olav Nyberg, PhD**, is an Associate Professor at Agder University in Grimstad, Norway. Previously, he worked at Volda University College as an Associate Professor and at Computas A/S as a Senior Engineer.

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