# Linear Algebra For Everyone Gilbert Strang

linear algebra has become the subject to know for people in quantitative disciplines of all kinds no longer the exclusive domain of mathematicians and engineers it is now used everywhere there is data and everybody who works with data needs to know more this new book from professor gilbert strang author of the acclaimed introduction to linear algebra now in its fifth edition makes linear algebra accessible to everybody not just those with a strong background in mathematics it takes a more active start beginning by finding independent columns of small matrices leading to the key concepts of linear combinations and rank and column space from there it passes on to the classical topics of solving linear equations orthogonality linear transformations and subspaces all clearly explained with many examples and exercises the last major topics are eigenvalues and the important singular value decomposition

illustrated with applications to differential equations and image compression a final optional chapter explores the ideas behind deep learning

lecture notes for linear algebra provides instructors with a detailed lecture by lecture outline for a basic linear algebra course the ideas and examples presented in this e book are based on strang s video lectures for mathematics 18 06 and 18 065 available on mit s opencourseware ocw mit edu and youtube youtube com mitocw readers will quickly gain a picture of the whole course the structure of the subject the key topics in a natural order and the connecting ideas that make linear algebra so beautiful

these lecture notes by very authoritative scientists survey recent advances of mathematics driven by industrial application showing not only how mathematics is applied to industry but also how mathematics has drawn benefit from interaction with real word problems the famous david report underlines that innovative high technology depends crucially for its development on innovation in mathematics the speakers include three recent presidents of ecmi one of eccomas in europe and the president of siam

now that people are aware that data can make the difference in an election or a business model data science as an occupation is gaining ground but how can you get started working in a wide ranging interdisciplinary field that s so clouded in hype this insightful book based on columbia university s introduction to data science class tells you what you need to know in many of these chapter long lectures data scientists from companies such as google microsoft and ebay share new algorithms methods and models by presenting

case studies and the code they use if you re familiar with linear algebra probability and statistics and have programming experience this book is an ideal introduction to data science topics include statistical inference exploratory data analysis and the data science process algorithms spam filters naive bayes and data wrangling logistic regression financial modeling recommendation engines and causality data visualization social networks and data journalism data engineering mapreduce pregel and hadoop doing data science is collaboration between course instructor rachel schutt senior vp of data science at news corp and data science consultant cathy o neil a senior data scientist at johnson research labs who attended and blogged about the course

book description gilbert strang s textbooks have changed the entire approach to learning linear algebra away from abstract vector spaces to specific examples of the four fundamental subspaces the column space and nullspace of a and a introduction to linear algebra fourth edition includes challenge problems to complement the review problems that have been highly praised in previous editions the basic course is followed by seven applications differential equations engineering graph theory statistics fourier methods and the fft linear programming and computer graphics thousands of teachers in colleges and universities and now high schools are using this book which truly explains this crucial subject

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