

1. Record Nr.	UNINA9910465337003321
Autore	Hanson Cody W
Titolo	Libraries and mobile services [[electronic resource] /] / Cody W. Hanson
Pubbl/distr/stampa	Chicago, Ill., : American Library Association, 2011
ISBN	1-283-09345-6 9786613093455 0-8389-9224-2
Descrizione fisica	1 online resource (37 p.)
Collana	Library technology reports, , 0024-2586 ; ; v. 47, no. 2
Disciplina	004.16 20
Soggetti	Library outreach programs Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Cover Page; Title Page; Copyright Page; Contents; Chapter 1-Why Worry about Mobile?; Why Mobile?; Mobile Device Ownership; Smartphone Sales; Mobile Internet Access; Mobile versus the Desktop; The Changing Face of the Digital Divide; The Day for Mobile Services Has Come; Notes; Chapter 2-Mobile Devices in 2011; Hardware; Components; Software; Notes; Chapter 3-Mobile Solutions for Your Library; Become a Mobile-Only User; Device Focus Group; Ensure Mobile-Friendliness in Your Current Site; Develop a Mobile Website; Develop Mobile Web Applications; Develop Native Mobile Apps (or Don't); Notes Chapter 4-Issues for Information Accession the Mobile WebSecurity; First Sale; Cost; Coverage; Net Neutrality; The New Digital Divide; Conclusion: The Future of Mobile Computing and Libraries
Sommario/riassunto	For libraries to stay relevant, they must be able to offer content and services through the mobile web.

2. Record Nr.	UNINA9910787860003321
Autore	Gray Matthew <1970->
Titolo	Qatar : politics and the challenges of development // Matthew Gray
Pubbl/distr/stampa	Boulder, Colorado ; ; London, [England] : , : Lynne Rienner Publishers, , 2013 ©2013
ISBN	1-62637-078-8
Descrizione fisica	1 online resource (288 p.)
Disciplina	953.63
Soggetti	POLITICAL SCIENCE / World / Middle Eastern Qatar Politics and government Qatar Economic conditions Qatar Strategic aspects Qatar Foreign relations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Book Title""; ""Contents""; ""List of Tables and Figures""; ""Figure 2.1 Abridged Genealogy of Qatara€?s Rulers Since 1868""; ""Table 2.1 Qatari Oil Production and Export, 1949a€?1971""; ""Table 2.2 Qatari GDP, Oil Revenue, and State Spending, 1970a€?1982""; ""Table 2.3 Expansion of Onshore Gas Production and Utilization in Qatar, 1971a€?1981""; ""Table 2.4 Expansion of Electricity and Water Production in Qatar, 1971a€?1980""; ""Table 2.5 Expansion of Education in Qatar, 1960a€?1981""; ""Table 2.6 Expansion of Trade, Industry, and Service Firms in Qatar, 1971a€?1980"" ""Table 3.1 State Capitalism at Work: State Ownership in Key Qatar Exchange Indexa€?Listed Firms, 2011""""Table 4.1 Qatara€?s Oil Reserves and Production, 1972a€?2011""; ""Table 4.2 Qatara€?s Gas Production, 1972a€?2011""; ""Table 4.3 Qatari Rentierism: The Oil and Gas Sectors as a Share of GDP, 2000a€?2011""; ""Table 4.4 Qatari Government Finances as Evidence for Rentier-State Characterization, 2004a€?2011""; ""Table 4.5 Qatari Oil Field Production, mid-2012""; ""Table 4.6 Qatari Liquefied Natural Gas Export Contracts, 2005a€?2015""

""Table 4.7 Qatargas and RasGas Production and Contracts, 2005a€?2014""""Table 5.1 Qatari Employment by Sector, 1997a€?2009"";
 ""Table 5.2 Higher Education Dynamics in Qatar, 1995a€?2000"";
 ""Table 5.3 Higher Education Dynamics in Qatar, 2008a€?2011"";
 ""Table 5.4 The Qatari Banking Sector: Comparative Financial Standing and Statistics, 2011""; ""Table 5.5 The Qatari Finance Sector: Performance Indicators, 2006a€?2011""; ""Table 6.1 Hotel and Tourism Expansion in Qatar, 2000a€?2011""; ""Table 7.1 GCC Military Capabilities Compared, 2010""
 ""Table 7.2 Qatara€?s Trade with China and India, 2001a€?2010""""
 Table 8.1 Qatara€?s GDP, Real GDP Growth Rate, and Inflation Rate, 1999a€?2011""; ""Table 8.2 Qatara€?s External Debt: Composition and Value, 2005a€?2012""; ""A Note on Transliteration and Terminology"";
 ""Acknowledgments""; ""1-The Transformation of Qatar""; ""Why a Book on Contemporary Qatar?""; ""Explaining Qatara€?s Political Economy"";
 ""About This Book""; ""2-The Historical Context""; ""The Rise of the Al Thani Family""; ""The Political Economy After Oil""; ""Qatar Under Khalifa, 1972a€?1995""
 ""Hamad, the 1995 Coup, and the New Qatar""""3-The Political Order"";
 ""An a€œEnergy-Drivena€? Economy: The State as Chauffeur""; ""The Royal Family""; ""State Mechanisms and State-Owned Firms""; ""The Business Families, Tribes, and Social Linkages""; ""International Business Actors""; ""4-Oil, Gas, and Rents""; ""Qatara€?s Energy Resources and Political Economy""; ""The Scope and Future of the Oil Sector""; ""The Centrality of Gas""; ""Petrochemicals and Energy Integration""; ""Rents Reinvested: Qatara€?s Sovereign Wealth Fund"";
 ""The Place of Energy""
 ""5-Energy-Driven Economic Diversification""

---

Sommario/riassunto

A small isthmus in the central Gulf, with barely 300,000 citizens and a total population of 1.7 million, Qatar has risen rapidly from obscurity to become the world's wealthiest country per capita. Matthew Gray traces this spectacular rise, exploring the development of Qatar's economy, the patterns of its politics, its role on the world stage, and its prospects for the future.

---

3. Record Nr.	UNINA9910568256103321
Autore	Pillonetto Gianluigi
Titolo	Regularized System Identification : Learning Dynamic Models from Data
Pubbl/distr/stampa	Cham, : Springer International Publishing AG, 2022
ISBN	3-030-95860-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (394 p.)
Collana	Communications and Control Engineering
Classificazione	COM004000MAT029000MAT029010SCI055000SCI064000TEC004000
Altri autori (Persone)	ChenTianshi ChiusoAlessandro De NicolaoGiuseppe LjungLennart
Soggetti	Machine learning Automatic control engineering Statistical physics Bayesian inference Probability & statistics Cybernetics & systems theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Intro -- Preface -- Acknowledgements -- Contents -- Abbreviations and Notation -- Notation -- Abbreviations -- 1 Bias -- 1.1 The Stein Effect -- 1.1.1 The James-Stein Estimator -- 1.1.2 Extensions of the James-Stein Estimator -- 1.2 Ridge Regression -- 1.3 Further Topics and Advanced Reading -- 1.4 Appendix: Proof of Theorem 1.1 -- References -- 2 Classical System Identification -- 2.1 The State-of-the-Art Identification Setup -- 2.2 $\mathcal{M}$ : Model Structures -- 2.2.1 Linear Time-Invariant Models -- 2.2.2 Nonlinear Models -- 2.3 $\mathcal{I}$ : Identification Methods-Criteria -- 2.3.1 A Maximum Likelihood (ML) View -- 2.4 Asymptotic Properties of the Estimated Models -- 2.4.1 Bias and Variance -- 2.4.2 Properties of the PEM Estimate as $N \rightarrow \infty$ -- 2.4.3 Trade-Off Between Bias and Variance -- 2.5 $\mathcal{X}$ : Experiment Design -- 2.6 $\mathcal{V}$ : Model Validation -- 2.6.1 Falsifying Models: Residual Analysis -- 2.6.2 Comparing Different Models -- 2.6.3 Cross-Validation -- References -- 3 Regularization of

Linear Regression Models -- 3.1 Linear Regression -- 3.2 The Least Squares Method -- 3.2.1 Fundamentals of the Least Squares Method -- 3.2.2 Mean Squared Error and Model Order Selection -- 3.3 Ill-Conditioning -- 3.3.1 Ill-Conditioned Least Squares Problems -- 3.3.2 Ill-Conditioning in System Identification -- 3.4 Regularized Least Squares with Quadratic Penalties -- 3.4.1 Making an Ill-Conditioned LS Problem Well Conditioned -- 3.4.2 Equivalent Degrees of Freedom -- 3.5 Regularization Tuning for Quadratic Penalties -- 3.5.1 Mean Squared Error and Expected Validation Error -- 3.5.2 Efficient Sample Reuse -- 3.5.3 Expected In-Sample Validation Error -- 3.6 Regularized Least Squares with Other Types of Regularizers -- 3.6.1  $\ell_1$ -Norm Regularization -- 3.6.2 Nuclear Norm Regularization -- 3.7 Further Topics and Advanced Reading -- 3.8 Appendix.

3.8.1 Fundamentals of Linear Algebra -- 3.8.2 Proof of Lemma 3.1 -- 3.8.3 Derivation of Predicted Residual Error Sum of Squares (PRESS) -- 3.8.4 Proof of Theorem 3.7 -- 3.8.5 A Variant of the Expected In-Sample Validation Error and Its Unbiased Estimator -- References -- 4 Bayesian Interpretation of Regularization -- 4.1 Preliminaries -- 4.2 Incorporating Prior Knowledge via Bayesian Estimation -- 4.2.1 Multivariate Gaussian Variables -- 4.2.2 The Gaussian Case -- 4.2.3 The Linear Gaussian Model -- 4.2.4 Hierarchical Bayes: Hyperparameters -- 4.3 Bayesian Interpretation of the James-Stein Estimator -- 4.4 Full and Empirical Bayes Approaches -- 4.5 Improper Priors and the Bias Space -- 4.6 Maximum Entropy Priors -- 4.7 Model Approximation via Optimal Projection -- 4.8 Equivalent Degrees of Freedom -- 4.9 Bayesian Function Reconstruction -- 4.10 Markov Chain Monte Carlo Estimation -- 4.11 Model Selection Using Bayes Factors -- 4.12 Further Topics and Advanced Reading -- 4.13 Appendix -- 4.13.1 Proof of Theorem 4.1 -- 4.13.2 Proof of Theorem 4.2 -- 4.13.3 Proof of Lemma 4.1 -- 4.13.4 Proof of Theorem 4.3 -- 4.13.5 Proof of Theorem 4.6 -- 4.13.6 Proof of Proposition 4.3 -- 4.13.7 Proof of Theorem 4.8 -- References -- 5 Regularization for Linear System Identification -- 5.1 Preliminaries -- 5.2 MSE and Regularization -- 5.3 Optimal Regularization for FIR Models -- 5.4 Bayesian Formulation and BIBO Stability -- 5.5 Smoothness and Contractivity: Time- and Frequency-Domain Interpretations -- 5.5.1 Maximum Entropy Priors for Smoothness and Stability: From Splines to Dynamical Systems -- 5.6 Regularization and Basis Expansion -- 5.7 Hankel Nuclear Norm Regularization -- 5.8 Historical Overview -- 5.8.1 The Distributed Lag Estimator: Prior Means and Smoothing -- 5.8.2 Frequency-Domain Smoothing and Stability. 5.8.3 Exponential Stability and Stochastic Embedding -- 5.9 Further Topics and Advanced Reading -- 5.10 Appendix -- 5.10.1 Optimal Kernel -- 5.10.2 Proof of Lemma 5.1 -- 5.10.3 Proof of Theorem 5.5 -- 5.10.4 Proof of Corollary 5.1 -- 5.10.5 Proof of Lemma 5.2 -- 5.10.6 Proof of Theorem 5.6 -- 5.10.7 Proof of Lemma 5.5 -- 5.10.8 Forward Representations of Stable-Splines Kernels -- References -- 6 Regularization in Reproducing Kernel Hilbert Spaces -- 6.1 Preliminaries -- 6.2 Reproducing Kernel Hilbert Spaces -- 6.2.1 Reproducing Kernel Hilbert Spaces Induced by Operations on Kernels -- 6.3 Spectral Representations of Reproducing Kernel Hilbert Spaces -- 6.3.1 More General Spectral Representation -- 6.4 Kernel-Based Regularized Estimation -- 6.4.1 Regularization in Reproducing Kernel Hilbert Spaces and the Representer Theorem -- 6.4.2 Representer Theorem Using Linear and Bounded Functionals -- 6.5 Regularization Networks and Support Vector Machines -- 6.5.1 Regularization Networks -- 6.5.2 Robust Regression via Huber Loss -- 6.5.3 Support Vector Regression -- 6.5.4 Support Vector Classification -- 6.6 Kernels

Examples -- 6.6.1 Linear Kernels, Regularized Linear Regression and System Identification -- 6.6.2 Kernels Given by a Finite Number of Basis Functions -- 6.6.3 Feature Map and Feature Space -- 6.6.4 Polynomial Kernels -- 6.6.5 Translation Invariant and Radial Basis Kernels -- 6.6.6 Spline Kernels -- 6.6.7 The Bias Space and the Spline Estimator -- 6.7 Asymptotic Properties -- 6.7.1 The Regression Function/Optimal Predictor -- 6.7.2 Regularization Networks: Statistical Consistency -- 6.7.3 Connection with Statistical Learning Theory -- 6.8 Further Topics and Advanced Reading -- 6.9 Appendix -- 6.9.1 Fundamentals of Functional Analysis -- 6.9.2 Proof of Theorem 6.1 -- 6.9.3 Proof of Theorem 6.10 -- 6.9.4 Proof of Theorem 6.13. 6.9.5 Proofs of Theorems 6.15 and 6.16 -- 6.9.6 Proof of Theorem 6.21 -- References -- 7 Regularization in Reproducing Kernel Hilbert Spaces for Linear System Identification -- 7.1 Regularized Linear System Identification in Reproducing Kernel Hilbert Spaces -- 7.1.1 Discrete-Time Case -- 7.1.2 Continuous-Time Case -- 7.1.3 More General Use of the Representer Theorem for Linear System Identification -- 7.1.4 Connection with Bayesian Estimation of Gaussian Processes -- 7.1.5 A Numerical Example -- 7.2 Kernel Tuning -- 7.2.1 Marginal Likelihood Maximization -- 7.2.2 Stein's Unbiased Risk Estimator -- 7.2.3 Generalized Cross-Validation -- 7.3 Theory of Stable Reproducing Kernel Hilbert Spaces -- 7.3.1 Kernel Stability: Necessary and Sufficient Conditions -- 7.3.2 Inclusions of Reproducing Kernel Hilbert Spaces in More General Lebesgue Spaces -- 7.4 Further Insights into Stable Reproducing Kernel Hilbert Spaces -- 7.4.1 Inclusions Between Notable Kernel Classes -- 7.4.2 Spectral Decomposition of Stable Kernels -- 7.4.3 Mercer Representations of Stable Reproducing Kernel Hilbert Spaces and of Regularized Estimators -- 7.4.4 Necessary and Sufficient Stability Condition Using Kernel Eigenvectors and Eigenvalues -- 7.5 Minimax Properties of the Stable Spline Estimator -- 7.5.1 Data Generator and Minimax Optimality -- 7.5.2 Stable Spline Estimator -- 7.5.3 Bounds on the Estimation Error and Minimax Properties -- 7.6 Further Topics and Advanced Reading -- 7.7 Appendix -- 7.7.1 Derivation of the First-Order Stable Spline Norm -- 7.7.2 Proof of Proposition 7.1 -- 7.7.3 Proof of Theorem 7.5 -- 7.7.4 Proof of Theorem 7.7 -- 7.7.5 Proof of Theorem 7.9 -- References -- 8 Regularization for Nonlinear System Identification -- 8.1 Nonlinear System Identification -- 8.2 Kernel-Based Nonlinear System Identification. 8.2.1 Connection with Bayesian Estimation of Gaussian Random Fields -- 8.2.2 Kernel Tuning -- 8.3 Kernels for Nonlinear System Identification -- 8.3.1 A Numerical Example -- 8.3.2 Limitations of the Gaussian and Polynomial Kernel -- 8.3.3 Nonlinear Stable Spline Kernel -- 8.3.4 Numerical Example Revisited: Use of the Nonlinear Stable Spline Kernel -- 8.4 Explicit Regularization of Volterra Models -- 8.5 Other Examples of Regularization in Nonlinear System Identification -- 8.5.1 Neural Networks and Deep Learning Models -- 8.5.2 Static Nonlinearities and Gaussian Process (GP) -- 8.5.3 Block-Oriented Models -- 8.5.4 Hybrid Models -- 8.5.5 Sparsity and Variable Selection -- References -- 9 Numerical Experiments and Real World Cases -- 9.1 Identification of Discrete-Time Output Error Models -- 9.1.1 Monte Carlo Studies with a Fixed Output Error Model -- 9.1.2 Monte Carlo Studies with Different Output Error Models -- 9.1.3 Real Data: A Robot Arm -- 9.1.4 Real Data: A Hairdryer -- 9.2 Identification of ARMAX Models -- 9.2.1 Monte Carlo Experiment -- 9.2.2 Real Data: Temperature Prediction -- 9.3 Multi-task Learning and Population Approaches -- 9.3.1 Kernel-Based Multi-task Learning -- 9.3.2 Numerical Example: Real Pharmacokinetic Data -- References --

Sommario/riassunto

This open access book provides a comprehensive treatment of recent developments in kernel-based identification that are of interest to anyone engaged in learning dynamic systems from data. The reader is led step by step into understanding of a novel paradigm that leverages the power of machine learning without losing sight of the system-theoretical principles of black-box identification. The authors' reformulation of the identification problem in the light of regularization theory not only offers new insight on classical questions, but paves the way to new and powerful algorithms for a variety of linear and nonlinear problems. Regression methods such as regularization networks and support vector machines are the basis of techniques that extend the function-estimation problem to the estimation of dynamic models. Many examples, also from real-world applications, illustrate the comparative advantages of the new nonparametric approach with respect to classic parametric prediction error methods. The challenges it addresses lie at the intersection of several disciplines so Regularized System Identification will be of interest to a variety of researchers and practitioners in the areas of control systems, machine learning, statistics, and data science. This is an open access book.

---