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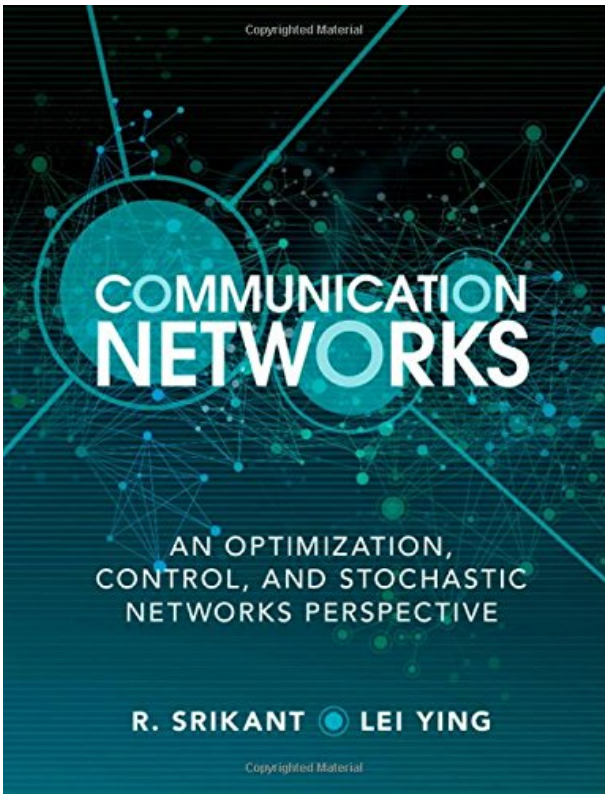

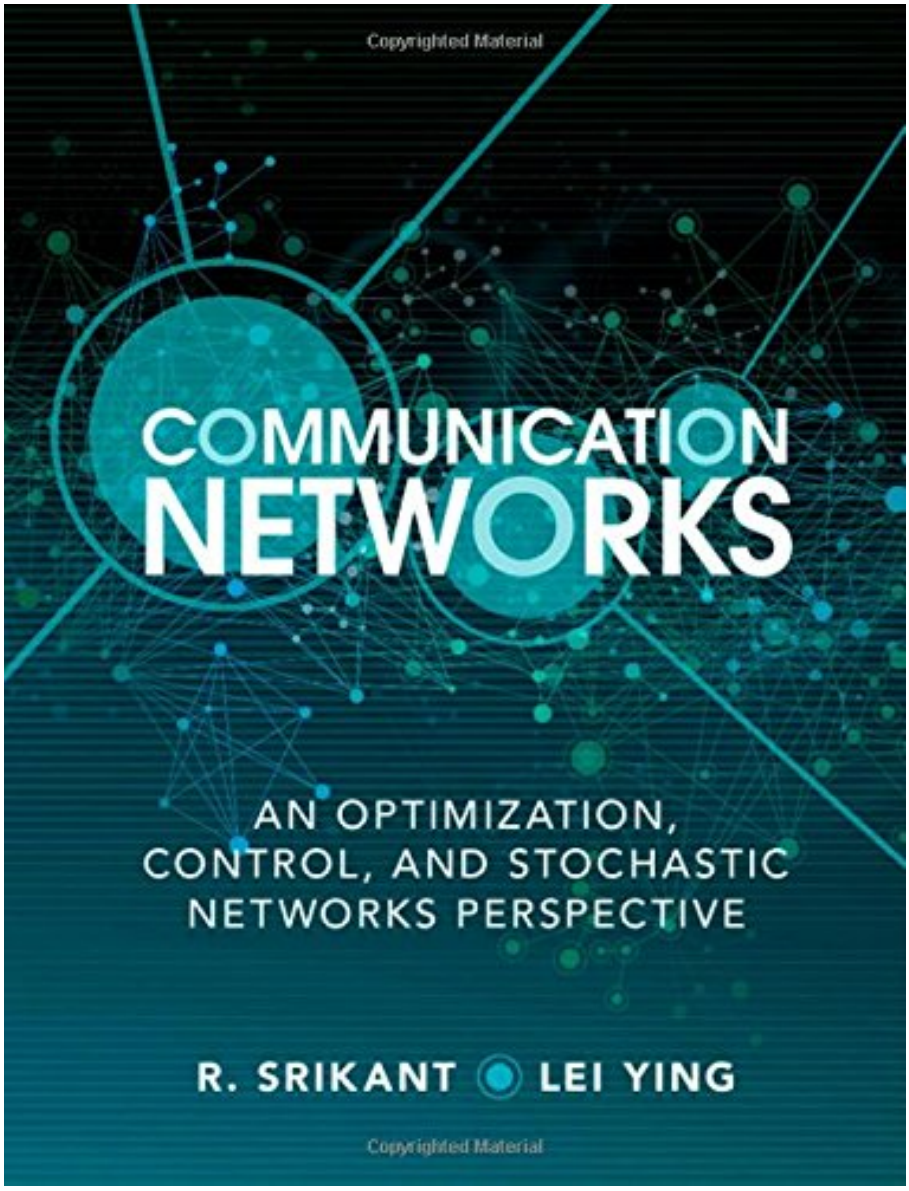

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Review

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Provides a modern mathematical approach to the design of communication networks for graduate students, blending control, optimization, and stochastic network theories. A broad range of performance analysis tools are discussed, including important advanced topics that have been made accessible to students for the first time. Taking a top-down approach to network protocol design, the authors begin with the deterministic model and progress to more sophisticated models. Network algorithms and protocols are tied closely to the theory, illustrating the practical engineering applications of each topic. The background behind the mathematical analyses is given before the formal proofs and is supported by worked examples, enabling students to understand the big picture before going into the detailed theory. End-of-chapter problems cover a range of difficulties, with complex problems broken into several parts, and hints to many problems are provided to guide students. Full solutions are available online for instructors.

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