



This book is a pedagogically developed in-depth tutorial on functional programming.

The tutorial covers both the theory and the practice of functional programming, with the goal of building theoretical foundations that are valuable for practitioners.

The main topics are functional collections; recursive functions and types; the fundamental type and code constructions used in functional programming; reasoning about types and code with the Curry-Howard correspondence; laws, structure theorems, and code derivation for functors, monads, and other important typeclasses; and free type constructions.

Long and difficult, yet boring explanations are logically developed in excruciating detail and accompanied by full step-by-step derivations and worked examples tested in the Scala interpreter. Solved examples are followed by self-study exercises and discussions.

Sergei Winitzki received a Ph.D. in theoretical physics and currently works as a software engineer. This is the fourth book written by him.

The Science of Functional Programming

Winitzki

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A tutorial, with examples in Scala

Sergei Winitzki