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Benjamin S. Riggan • Wesley E. Snyder  
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# Fundamentals of Sketch-Based Passwords

A General Framework

 Springer

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*This book is dedicated to my beloved wife,  
Alyssa, who has always supported me in  
all my endeavors.*

# Preface

The purpose of this book is to introduce the fundamental procedures necessary for implementing a “sketch-based authentication system.” The notion of using a drawing or sketch originally came from Xiaogang Wang, who thought random alphanumeric strings were too complicated to remember. This idea combined with biometric information (e.g. pressure, velocity, or acceleration) posed an interesting, yet difficult problem to solve.

This book is intended for researchers interested in pattern recognition applications similar to the application of sketch-based passwords, such as signature recognition methods, graphical passwords, biometrics, or human-computer interaction techniques. First, concepts utilized by other alternatives to traditional passwords are introduced and analyzed, Then, two different pattern recognition techniques that may be used for recognizing sketch-based passwords (including any associated biometric information) are discussed in detail. Lastly, fundamental theory and experiments related to the security and usability of sketch-based passwords are provided.

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Raleigh, NC  
October 2014

Benjamin Riggan

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