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Preface

This book is based on class notes for a senior/graduate-level course I, Ümit Özgüner, have been teaching at The Ohio State University for 8 years titled “Autonomy in Vehicles.” Portions were also presented in lectures at short courses in different international venues.

The course, and thus the book, focuses on the understanding of autonomous vehicles and the technologies that aid in their development. Before we get to see fully autonomous vehicles on the roadway, we will encounter many of the constituent technologies in new cars. We therefore present a fairly comprehensive overview of the technologies and techniques that contribute to so-called “intelligent vehicles” as they go through the stages of having driver aids, semiautonomy, and finally reach full autonomy.

The book content relies heavily on our own experiences in developing a series of autonomous vehicles and participating in a series of international “demonstration” or “challenge” events. Although the book will explain in substantially more detail on developments at The Ohio State University, the reader is provided with the basic background and is encouraged to read and appreciate the work at other research institutions participating in the demonstration and challenges.

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