

Preface

It makes me proud to be able to deliver to you a brand new volume of *Game AI Pro*! After putting together books like this one for over a decade, I'm still humbled by the generosity of the authors to share their hard-earned knowledge with the game developer community. In this book, 47 authors have come together to bring you their newest advances in game AI, along with twists on proven techniques that have shipped in some of the most respected commercial games of the last couple years. In addition, we've scoured the latest game AI research from universities and offer you some of the most promising work.

Like most technological industries, the game industry is a whirlwind of new ideas, and the subfield of game AI is no exception. This book hits hard on the area of pathfinding optimization, showing several techniques that can beat a traditional A* search by one or two orders of magnitude. We dedicated a new section to search, giving an inside look into some of the best techniques for exploring a problem space. Another very special section in this book is on character behavior, where, among other wisdom, we detail three distinct areas of AI behavior within the award-winning game *The Last of Us*. In the area of tactics and spatial awareness, we have wisdom from the *Splinter Cell* series and the *Guild Wars* series, among others. Finally, we give you a tour of the most promising new twists on AI architectures and finish the book with a look into procedural content generation and analytics.

Over the last 5 years, game AI communities have really hit their stride and are truly supporting each other. In addition to the *Game AI Pro* book series, there are now annual conferences, both academic and developer-centric, held all over the globe. Organized by developers, there is the Game Developers Conference (GDC) AI Summit in San Francisco and the Game/AI Conference in Europe. Organized by academia, there is the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AIIDE) and the IEEE Conference on Computational Intelligence and Games. Outside of events, there are two communities that have also sprung up to help developers. The AI Game Programmers Guild is a free professional group with over 400 worldwide members (<http://www.gameai.com>), and there is a wonderful community of hobbyists and professionals at AiGameDev.com. We warmly welcome you to come hang out with us at any one of these conferences or participate in one of our online communities!