Contents

List of figures ix
Photo and illustration credits xiii
Foreword xiv
Acknowledgments xvi

1 Why music and coding? 1

Interlude 1: Basic pop beat 12

2 Rhythm and tempo 18

Interlude 2: Custom trap beat 49

3 Pitch, harmony, and dissonance 53

Interlude 3: Melodies and lists 68

4 Chords 71

Interlude 4: Playing chords 84

5 Scales, keys, and melody 88

Interlude 5: Lean on me 100

6 Diatonic chords and chord progressions 103

Interlude 6: Random chord progressions 114

7 Frequency, fourier, and filters 117

Interlude 7: Creative effects 136

8 Note-based production effects 140

Interlude 8: How to make a drum fill 153

9 Song composition and EarSketch 158

Interlude 9: How to make a snare drum riser 172

10 Modular synthesis 177

Interlude 10: Drum machine function 191

11 History of music and computing 194

Appendix A: Python reference 207
Appendix B: TunePad programming reference 231
Appendix C: Music reference 240
Index 255