

# Contents

<b>Re-envisioning Computing Across Disciplines</b> . . . . .	1
Samuel B. Fee, Amanda M. Holland-Minkley and Thomas E. Lombardi	
<b>Part I The Case for Interdisciplinary Computing Education</b>	
<b>Good (and Bad) Reasons to Teach All Students Computer Science</b> . . . . .	15
Colleen M. Lewis	
<b>Approaching Computer Science Education Through Making</b> . . . . .	35
Michael Eisenberg	
<b>Computer Science and the Liberal Arts: Hidden Synergies and Boundless Opportunities</b> . . . . .	45
Gary R. Skuse, Daniel A. Walzer, Kathryn Tomasek, Douglas Baldwin and Mark Bailey	
<b>Task-Driven Programming Pedagogy in the Digital Humanities</b> . . . . .	63
David J. Birnbaum and Alison Langmead	
<b>Macroanalysis in the Arts and Sciences</b> . . . . .	87
Thomas E. Lombardi	
<b>Part II Pedagogical and Curricular Approaches</b>	
<b>An Unnamed Intersection: Where Computing Meets Liberal Arts</b> . . . . .	103
Enid Arbelo Bryant	
<b>Adapting the Studio Based Learning Methodology to Computer Science Education</b> . . . . .	119
Paula Alexandra Silva, Blanca J. Polo and Martha E. Crosby	

<b>The Curricular Soundtrack: Designing Interdisciplinary Music Technology Degrees Through Cognitive Apprenticeship and Situated Learning</b> . . . . .	143
Daniel A. Walzer	
<b>An Interdisciplinary Model for Liberal Arts Computing Curricula</b> . . . . .	161
Amanda M. Holland-Minkley and Samuel B. Fee	
<b>Part III Case Studies and Examples</b>	
<b>The Development of a B.A. in Computer Science and Computational Thinking</b> . . . . .	187
Kathie A. Yerion, Robert L. Bryant and Shawn Bowers	
<b>Disciplinary Thinking, Computational Doing: Collaborating for Mutual Enrichment.</b> . . . . .	201
Valerie Barr	
<b>A Capstone Experience in Information Technology</b> . . . . .	217
William H. Thomas, Loren K. Rhodes and Gerald W. Kruse	
<b>Trial by a Many-Colored Flame: A Multi-disciplinary, Community-Centric Approach to Digital Media and Computing Education</b> . . . . .	237
Adrienne Decker, Andrew Phelps and Christopher A. Egert	
<b>A GitHub Garage for a Digital Humanities Course</b> . . . . .	259
Elisa E. Beshero-Bondar and Rebecca J. Parker	
<b>Educators as Clinicians: Small Data for Education Research</b> . . . . .	277
Thomas E. Lombardi and Amanda M. Holland-Minkley	
<b>Common Threads: Directions for Computing Education.</b> . . . . .	295
Samuel B. Fee, Amanda M. Holland-Minkley and Thomas E. Lombardi	
<b>Author Index.</b> . . . . .	305
<b>Subject Index.</b> . . . . .	307



<http://www.springer.com/978-3-319-54225-6>

New Directions for Computing Education  
Embedding Computing Across Disciplines  
Fee, S.B.; Holland-Minkley, A.; Lombardi, Th.E. (Eds.)  
2017, XI, 308 p. 11 illus., Hardcover  
ISBN: 978-3-319-54225-6