Approximation by planar elastic curves

We give an algorithm for approximating a given plane curve segment by a planar elastic curve. The method depends on an analytic representation of the space of elastic curve segments, together with a geometric method for obtaining a good initial guess for the approximating curve. A gradient-driven optimization is then used to find the approximating elastic curve.

General information
State: Published
Organisations: Department of Applied Mathematics and Computer Science, Mathematics
Authors: Brander, D. (Intern), Gravesen, J. (Intern), Nørbjerg, T. B. (Intern)
Number of pages: 19
Publication date: 2016
Main Research Area: Technical/natural sciences

Publication information
Journal: Advances in Computational Mathematics
ISSN (Print): 1019-7168
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): SNIP 1.044 SJR 0.812
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.3 SJR 0.804 SNIP 0.982
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.007 SNIP 1.195 CiteScore 1.33
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.255 SNIP 1.574 CiteScore 1.57
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.063 SNIP 1.602 CiteScore 1.5
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.987 SNIP 1.638 CiteScore 1.42
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.006 SNIP 1.359 CiteScore 1.11
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.331 SNIP 1.184
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.92 SNIP 1.666
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.717 SNIP 1.071
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 0.93 SNIP 1.088
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 1.045 SNIP 1.102
Scopus rating (2005): SJR 1.121 SNIP 1.699