

# Linear-time Algorithm for Convex Grid Drawings of 3-connected Planar Graph

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**Abstract:** We consider the problem of embedding the vertices of a plane graph into a small (polynomial size) grid in the plane in such a way that the edges are straight, non-intersecting line segments and faces are convex polygons. We present a simple linear-time algorithm which, given an  $n$ -vertex 3-connected plane graph  $G$  (with  $n > 3$ ), finds such a straight-line convex embedding of  $G$  into a  $(n-3) \times (n-3)$  grid.

