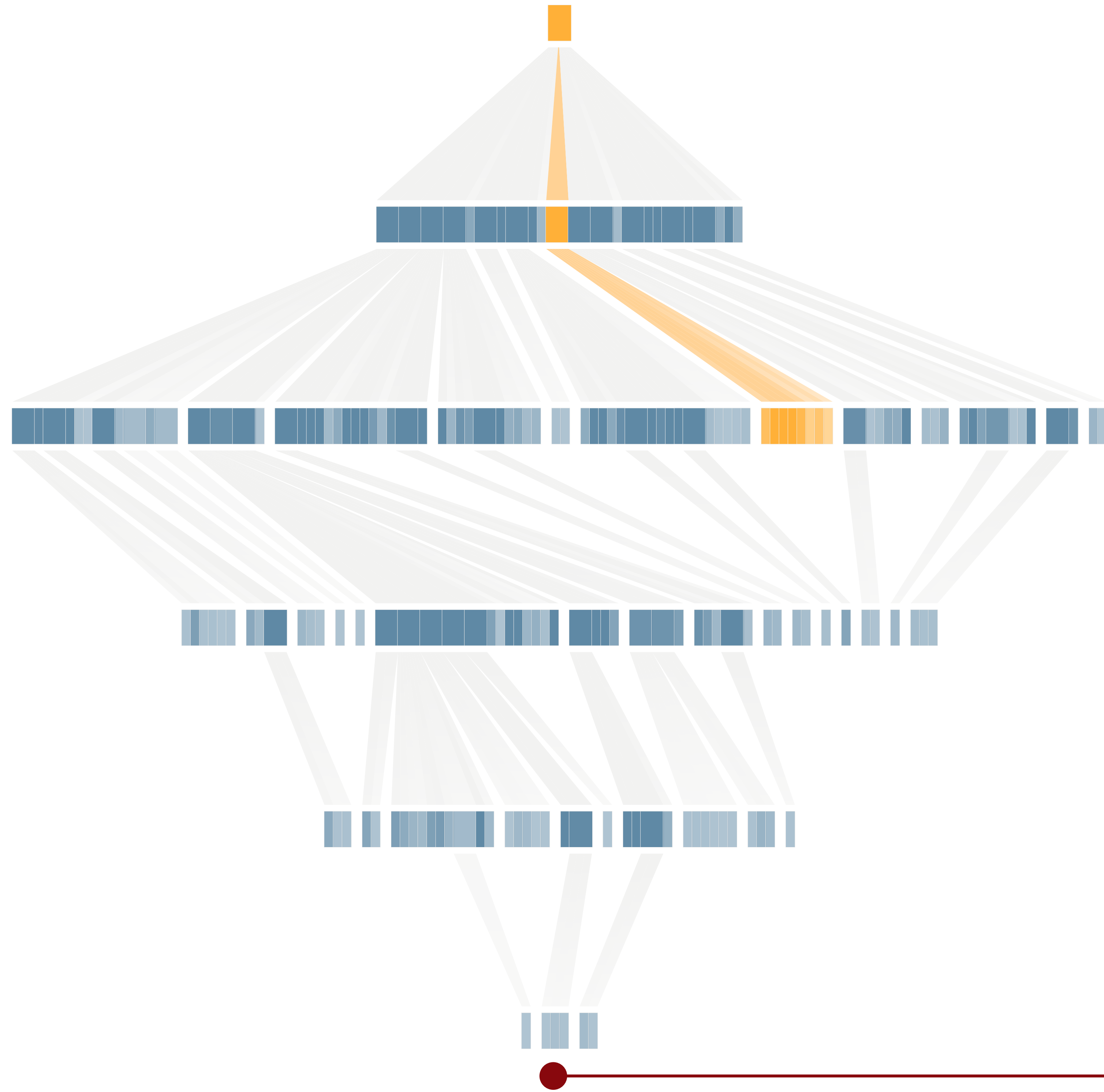


# Elastic Tree Layouts for Interactive Exploration of Mentorship

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**Problems:** Existing tools visualizing mentorship mainly suffer from a waste of space, lack of overview representation, and less displayed attribute information.

**Design:** We propose a novel elastic tree layout based on node-link diagrams. By animately stretching, compressing, aggregating, and expanding nodes and edges, we can: get a high space-efficiency tree layout, explore tree layouts in a focus + context way, display multiple attributes via labeling, charts, and node opacity.



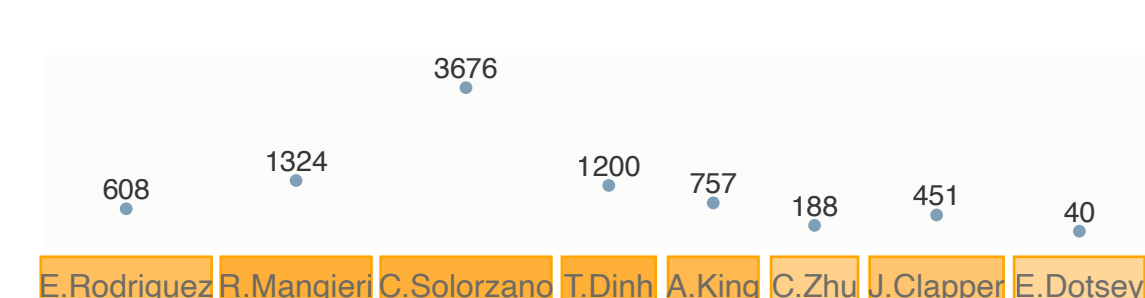
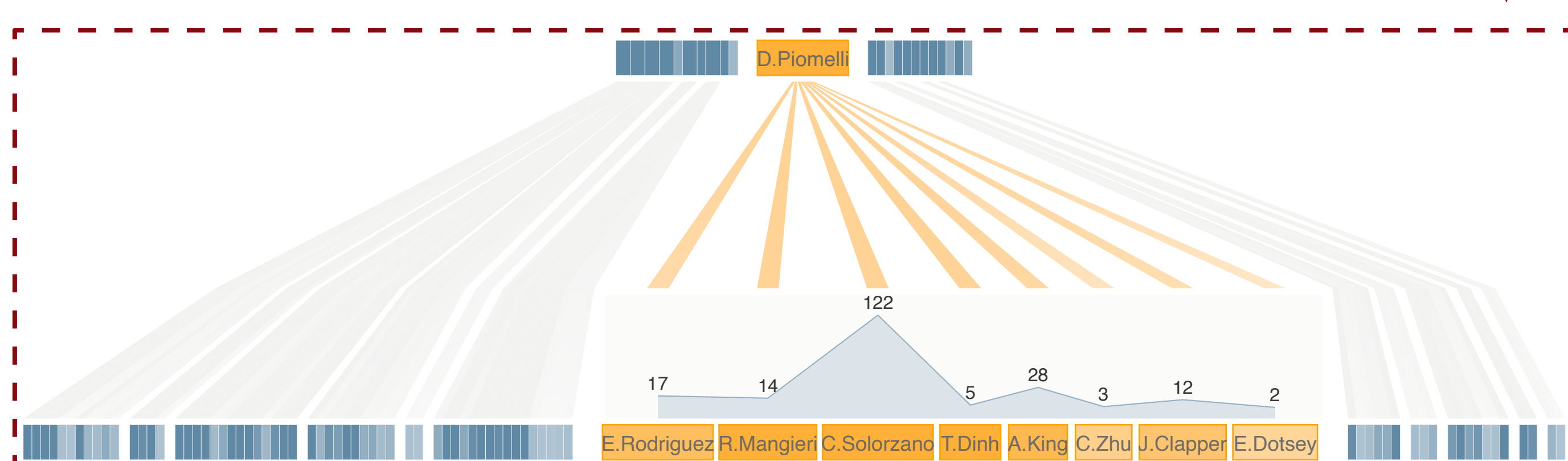
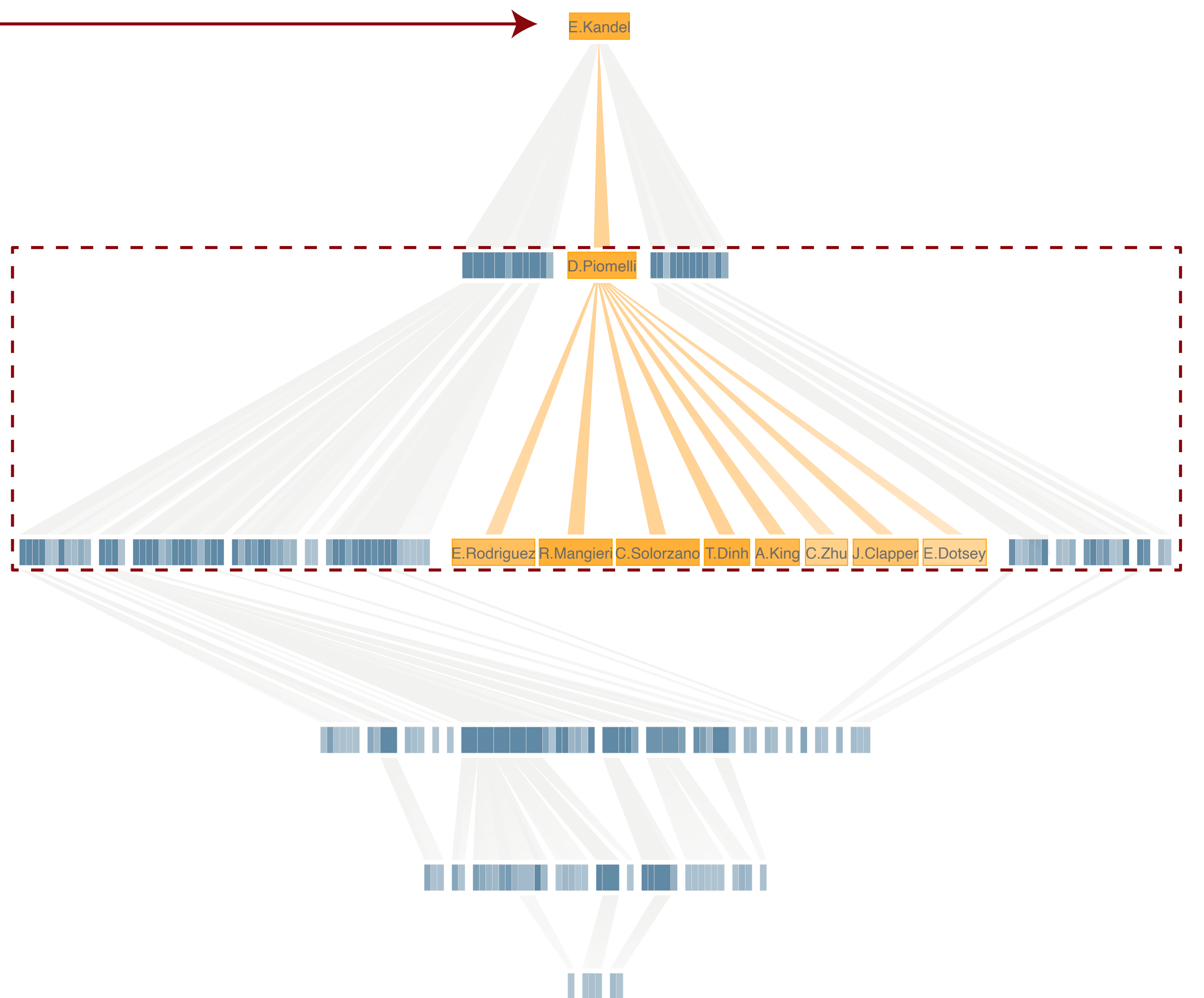
## 1 Overview

In the overview layout, mentees with the same mentor and relevant links are aggregated together; a fixed gap is set between adjacent families; leaf nodes are compressed to the narrowest.

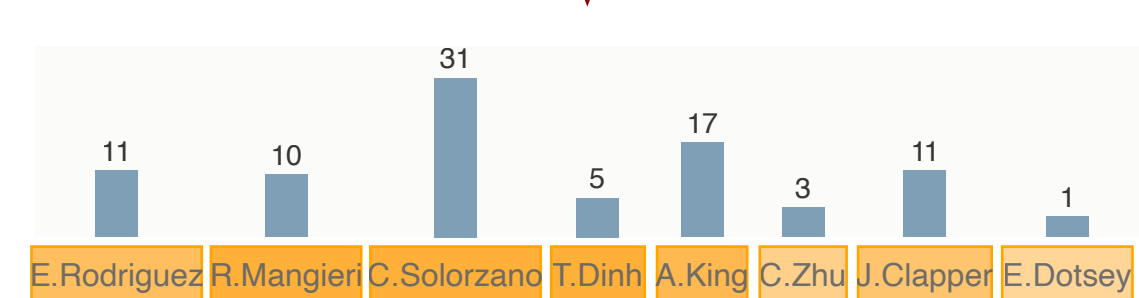
Besides, in this figure, the node opacity is being mapped by the citation number of the scholar, and a subtree generated by the liked focus (red border) is highlighted.

## 2 Focus + Context

Clicking on the focus again, the subtree will be separated in the form of Focus + Context through: recalculating the position of each layer using Fisheye; compressing and translating nodes to leave room for the subtree and make the subtree layout as standard as possible.



Citation using scatterplots



Publication using bar charts

## 3 The Detailed Subtree

The subtree can show more information, this figure shows the distribution of the H-index of mentees using area charts.

