# Freely generated $n$-categories and coinserters

Fernando Lucatelli Nunes

*Composing with the inclusion* $\mathsf{Set} \to \mathsf{Cat}$*, a graph* $G$ *internal to* $\mathsf{Set}$ *becomes a graph of discrete categories, the coinserter of which is the category freely generated by* $G$*. Introducing a suitable definition of* $n$*-computad, we show that a similar approach gives the* $n$*-category freely generated by an* $n$*-computad [2]. To do so, we introduce* 2*-categories of (strict)* $n$*-categories via* 2*-dimensional monad theory, getting higher dimensional analogues of the icons [1] as* 2*-cells.*

*This work is part of my PhD studies under supervision of Maria Manuel Clementino at University of Coimbra.*

## References

[1] S. Lack, Icons, Appl. Categ. Structures **18** (2010), no. 3, 289–307.

[2] F. Lucatelli Nunes. Freely generated n-categories, coinserters and presentations of low dimensional categories. arXiv:1704.04474