

# Computational Methods for Applied Category Theory



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# 1

## Categories

- 1.1 Monoids
- 1.2 Free Categories
- 1.3 Finite Sets
- 1.4 Functions
- 1.5 Limits
- 1.6 Colimits
- 1.7 Dagger
- 1.8 Monoid Enrichment



# 2

## Monoidal categories





# 3

## Closed categories



# 4

## Hypergraph categories



# 5

## Categories of matrices



# 6

## Quantum processes





# 7

## Formal grammars



# 8

## Bubbles and gradients



# References

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