

A stylized illustration of a human brain in a light teal color. The right hemisphere of the brain is filled with a network of dark teal dots connected by lines, representing a neural network or computational model. To the left of the brain is a dark teal outline of a computer monitor. A white rectangular box with a dark teal border is positioned in the center, overlapping the brain and the monitor outline. The text "COMPUTATIONAL NEUROSCIENCE" is written in dark teal, bold, uppercase letters within this box.

COMPUTATIONAL NEUROSCIENCE

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Computational Neuroscience

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Preface

What follows are my notes on computational neuroscience, acquired mostly through self-study. The major sources that have been consulted are as follows.

- ▶ [Computational Neuroscience](#), an online course on Coursera by the University of Washington.
- ▶ [Neuronal Dynamics](#), a freely available online textbook.
- ▶ Lecture notes on Computational Neuroscience by Todd Troyer.

As these are the fruits of quite unguided explorations through the vast terrains of computational neuroscience, it's astronomically unlikely that these are void of errors. I take full responsibility for all mistakes within. But in exchange, I urge you, the reader, to do me a couple of favours. First, read everything (these notes *and* everything else that you will ever read) with a hint of healthy scepticism - all the authors are, just like you and I, humans. And second, let me know of the errors you find here - be they "hard errors" (i.e. something scientifically incorrect), or "soft errors" (i.e., something that isn't, strictly speaking, incorrect, but could be presented better). Computational biology is a joy of a ride - I hope you have as much fun reading these notes as I have had in preparing these.

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2022-09-21