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Brainstormen:

# Algorithms

## A linear time extension of deterministic pushdown automata

<https://aclanthology.org/W09-4626.pdf>

## Compiler algorithms

<http://www.softpanorama.org/Algorithms/compilers.shtml>

## Neural Turing Machine

<https://en.wikipedia.org/wiki/Neural_Turing_machine>

<https://awesomeopensource.com/project/WhenDustSettles/Neural-Turing-Machine>

## Neural state PDA

<https://deepai.org/publication/the-neural-state-pushdown-automata>

## Visible PDA

<https://www.semanticscholar.org/paper/A-new-algorithm-for-the-determinisation-of-visibly-Pol%C3%A1ch-Travnicek/d6ec2c5eb7c71b98946c1525638529ced397ec5b>

## Nondeterministic Stack RNNs

<https://deepai.org/publication/learning-context-free-languages-with-nondeterministic-stack-rnns>

## The Neural Network Pushdown Automaton

<https://deepai.org/publication/the-neural-network-pushdown-automaton-model-stack-and-learning-simulations>

## Context-Free Transductions with Neural Stacks

<https://deepai.org/publication/context-free-transductions-with-neural-stacks>

## Subtree Matching by Pushdown Automata⋆

<http://elib.mi.sanu.ac.rs/files/journals/csis/14/070205.pdf>

## Building a Turing Machine with Reinforcement Learning

<https://towardsdatascience.com/building-a-turing-machine-with-reinforcement-learning-9d06a4f0ce6>

## CYK\_algorithm extensions

<https://en.wikipedia.org/wiki/CYK_algorithm#Extensions>

# Ideas

## Turing Machines

AI, GTA1, autopilot  
<https://ieeexplore.ieee.org/abstract/document/7727551>

## Compiler

Gameboy

## Natural language processing

spellchecker

<https://www.analyticssteps.com/blogs/top-10-applications-natural-language-processing-nlp>