Multi-Agent ResearchGPT Report

Opening the black box of deep learning

Link: http://arxiv.org/abs/1805.08355v1

Summary:

this dissertation proposes that the neural network of deep learning is a physical system . it examines deep learning from three different perspectives: microscopic, macroscopic and physical world views . this dissertation explains why deep learning must be deep, what characteristics are learned in deep learning .

Concept-Oriented Deep Learning

Link: http://arxiv.org/abs/1806.01756v1

Summary:

concept-oriented deep learning (CODL) addresses some of the major limitations of deep learning . CODL addresses interpretability, transferability, contextual adaptation and requirement for lots of labeled training data .

Deep learning research landscape & roadmap in a nutshell: past, present and future

Link: http://arxiv.org/abs/1908.02130v1

Summary:

The past, present and future of deep learning is presented in this work. Given this landscape & roadmap, we predict that deep cortical learning will be the convergence of deep learning & cortical

learning which builds an artificial cortical column ultimately.

A First Look at Deep Learning Apps on Smartphones

Link: http://arxiv.org/abs/1812.05448v4

Summary:

we present the first empirical study on 16,500 the most popular Android apps . we build a new static tool that dissects apps and analyzes their deep learning functions . our findings paint a promising picture of deep learning for smartphones .

Geometrization of deep networks for the interpretability of deep learning systems

Link: http://arxiv.org/abs/1901.02354v2

Summary:

geometrization is a bridge to connect physics, geometry, deep network and quantum computation . this may result in a new scheme to reveal the rule of the physical world .

Why & When Deep Learning Works: Looking Inside Deep Learnings

Link: http://arxiv.org/abs/1705.03921v1

Summary:

the Intel Collaborative Research Institute for Computational Intelligence (ICRI-CI) has been heavily supporting machine learning and deep learning research since its foundation in 2012 . the output of

this challenge resulted in five papers that address different facets of deep learning .

Learning Task-aware Robust Deep Learning Systems

Link: http://arxiv.org/abs/2010.05125v2

Summary:

a deep learning system consists of two parts: the deep learning task and the deep model . most existing studies investigate the impact of the learning task on robustness . this paper adopts the binary and interval label encoding strategy to redefine the classification task .

Deep Learning in Software Engineering

Link: http://arxiv.org/abs/1805.04825v1

Summary:

deep learning is increasingly prevalent in the field of Software Engineering (SE) many open issues remain to be investigated . the answers help practitioners and researchers develop practical deep learning models for SE tasks .

Moving Deep Learning into Web Browser: How Far Can We Go?

Link: http://arxiv.org/abs/1901.09388v2

Summary:

several JavaScript-based deep learning frameworks have emerged . but little is known on what and

how well we can do with these frameworks for deep learning . this paper conducts the first empirical study of deep learning in browsers . findings could help application developers, deep-learning framework vendors and browser vendors .

Greedy Deep Dictionary Learning

Link: http://arxiv.org/abs/1602.00203v1

Summary:

we propose a new deep learning tool called deep dictionary learning . we apply the proposed technique on some benchmark deep learning datasets . our method yields better results than all other deep learning tools .