

Summary 19

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M. Khoshgoftaar

The building blocks of AI by Conner Shorten survey

Connor talked about his new beginning with Dr. Khoshgoftaar in his class on data mining and machine learning. As he spoke, he talked about his interest in learning machine learning and how you can build sentiment analysis models using Twitter data to gauge election sentiment. As a result, he came up with the idea to use deep neural networks and image classification to create a program called Just Buckets, which utilizes artificial intelligence to identify when a basketball player makes a shot.

With doctor Cox at Florida State, he discussed his entry into an entrepreneurial business plan competition. As a result of this project, he became very familiar with data image augmentation in order to build very large labeled training datasets. Furthermore, he learned about Determined AI, a platform whose channel is distributed training, and tools such as Weaviate, which is a new search algorithm framework, and MHS data, which is COVID-19 inpatient care data. In his various projects and as the focus of his research, he emphasizes the importance of bringing AI to science.

The building blocks of A. I provided an overview of the different research topics and research directions emerging in the study of artificial intelligence and deep learning based methods to achieve artificial intelligence. He discusses the entanglement of how the data systems and the algorithms are designed around each other in terms of the ways in which the data and the algorithms are used in A.I. using the altering descriptions he provides for them.

In four parallel sets of data and algorithms, he breaks down the building blocks of AI.

This first part of the series introduces what data is and describes different types of data, such as tabular images, text, audio graphs, and video applications. In addition to gradient descent, supervised learning, reinforcement learning, and self-learning, he discusses other learning algorithms. A second part of the data series discusses how data can be represented in categorical and simple ways using linear algebra. He discussed evaluating representation to supervise testing robustness using a generalized checklist and distribution shift in the algorithms to the section. On data part 3, he discussed cross-validation brain tests that split generalization of models and other generalization techniques. He discussed targeting generalization in part 3 of the algorithms section, such as with data augmentation and adversarial optimization. He discussed metadata sets such as deep Nets-1M few-shot learning, learning curves, and metrics beyond test accuracy in data part four. As part of algorithm part four, he discussed meta-learning, HPO, NAS, beyond architectures, the three pillars of AI-GAs, and a few shots of learning