**Review of CherryPick**

# **Summary**

For applications, choosing the right cloud conﬁguration is essential to service quality and commercial competitiveness. Due to the accuracy, overhead and adaptivity, selecting the best cloud conﬁguration is difﬁcult.

CherryPick is a system that finds the optimal or near-optimal cloud conﬁgurations that minimize cloud usage cost, guarantee performance and limit the search overhead.

**Contributions**

①Building a performance model that is just **accurate enough** to allow people to distinguish near-optimal conﬁgurations from the rest.

②Tolerating the inaccuracy of the model achieve both low overhead and adaptivity.

③CherryPick leverages **Bayesian Optimization (BO)** which estimates a conﬁdence interval.

* First, BO does not limit the function to be of any predeﬁned format, as it is non-parametric.
* Second, BO typically needs a small number of samples to ﬁnd a near-optimal solution.
* Third, BO can tolerate uncertainty.

**Comments**

They overcome several ***challenges*** such as complex performance model, cost model and the heterogeneity of applications.

They mainly have four ***implements***: **Search Controller** (orchestrating the entire cloud conﬁguration selection process), **Cloud Monitor** (running benchmarking workloads of Big Data deﬁned by CherryPick on different clouds), **Bayesian Optimization Engine** ( building on top of Spearmint), **Cloud Controller** ( an adaptation layer which handles the heterogeneity to control the clouds).