2018 Research Interest/Project Ideas

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DeltaFlare: Native Compilation for Realtime Stream Processing

In recent work, we have developed an accelerator back-end for Apache Spark that delivers 10x-100x speedups on batch workloads, thanks to native code generation and architecture- aware optimizations (https://arxiv.org/abs/1703.08219).

In this project, we plan to extend the technique to streaming workloads and incremental query processing, reaping similar benefits for interactive and realtime processing. A key use case will be processing financial data feeds.