README V1.0

1. Project Name and Brief Description

This project name is called "RIOS Patent Classification" (RIOS Laboratory Patent Classification, abbreviated as RPC). The open source RPC document mainly classifies the functional modules of processors. RPC is currently divided into four levels, the first level currently includes R01 (Micro-Architecture) and R02 (Instruction Set Architecture, ISA). Furthermore, the classification of Core is further divided into the third level, which including: Fetch Unit, Branch Predictor, Decode Unit, Hazard Handling, Dispatch Unit, and so on. In the RPC classification, almost all patents can be assigned to the third level, and a few patents can be assigned to the fourth level. For example, the technical classification of Fetch Unit in the third level can be further divided into the fourth level, which including: Instruction Prefetch, and Instruction Buffer.

1. Project Background

Why we adopt the RIOS Patent classification (RPC)?

Firstly, the existing IPC (International Patent Classification) or CPC (Cooperative Patent Classification) classification covers biological, chemical, economic, physical and other aspects, and the technical classification is too broad. The classification of computer processor starts from G(physics) classification in the IPC/CPC, and there is no specific technical classification for each functional module of the processor. RIOS Lab focuses on processor design and application of processor, we hope to classify the processor technology according to different functional modules implemented by the processor, which can better satisfy the professional requirements and facilitate the R&D personnel to search patents of a specific processor functional module.

Secondly, the Patent Examination Office will classify patents from multiple technical perspectives, to facilitate the technical review of patent application. Several IPC/CPC classification numbers are used to classify patents, but there is no indication that which IPC/CPC classification is more important. The most important technology classification may be covered by other IPC/CPC numbers, which may cause data distortion when performing patent landscape.

Finally, RIOS Patent Classification does not exclude IPC and CPC classification number, combined with IPC classification number and CPC classification number, RIOS Patent Classification RPC can help technicians better understand the patent technology of each functional module of the processor.

3. Source of RPC

RIOS Patent Classification RPC is derived from the EECS (Electrical Engineering and Computer Sciences) courses in UC Berkeley, the website of EECS courses see as follows: https://eecs.berkeley.edu/academics/courses.

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