Resume

Feng Xiaokang (冯小康)

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Highest Edu. Degree: Ph.D. Birth: Dec. 1990

Capacity summary

Overall knowledge in computer science **basics**, **core database development** experience, fundamental algorithm research experience.

- Participated in R&D and BUG solvings in some core features of a **commercial database product.**
- Achieved **Best Student Paper award** in a national database conference with a research work in high-dimensional indexing.
- Lay **emphasis on testing**, good at finding corner cases.
- Has **keen interest** in fundamental problems in computer science and technology.
- Maintained a good **coding style.**

Skilled in C/C++/Linux; familiar with Python.

Education

- 2013.08-2020.06 Computer Architecture, Xidian University — Ph.D. degree
- 2018.09-2019.09 University of New South Wales (Australia) — Joint training Ph.D. candidate
- 2009.09-2013.07 Computer Science and Technology, Xidian University — Bachelor degree

Work experience

2020.9~ . Huawei cloud database core development engineer

- As a main force, participated in the development of the **Parallel Index Creation feature** in Huawei's GaussDB (for MySQL) database
  - this is one of three major competitive features of this product
  - have **4000+ source codes and 6000+ testing codes committed**
  - **identified 8** non-self introduced **BUGs**
- Completed the combination of Parallel Index Creation with another major **feature** (named Near Data Processing)
  - design, develop and test all by himself
  - have **1500+ codes and 2700+ testing codes committe**d
- Completed a **DDL** lock-wait fast timeout **feature**
- **Investigated** the parallel index creation in the **community source codes of MySQL**, thoroughtly read the implementation, fisished algorithm analysis and performance comparison
- Analyzed and **solved multiple** database **kernel BUGs**, also **submitted a BUG to the MySQL community**

2018.9~2019.9. Joint training Ph.D. candidate, University of New South Wales

- Identified **a novel phenomenon** in furthest neighbors in high dimensions.
- **A novel algorithm** is build upon the above finding, which significantly improves the search performance.
- Experienced a both rough and pleased acamemic training. Also experienced various **data analysis and visualization** toolkits.

2013.9~2018.9. Ph.D. candidate, Xidian University

- Focused on the research of *high-dimensional indexing* and similarity search, proposed 3 SCI/EI papers and 1 granted patent.
- One of the work achieved the **Best Student Paper** as well as the **Nomination for Best Paper** in the 35th China Database Academic Conference (NDBC 2018), and was accepted by the Chinese Computer Journal (**CCF Chinese core journals ranked 1st**).
  - This work made a thorough investigation of the space-filling curves and identified an optimal order for the organization of nearest neighbor candicates on external storages, which further improved the I/O efficiency of high-dimensional nearest neighbor search.

Detailed acedemic works：

Note: all these works have fully coding implementations, which were mainly written in C/C++. Totally 6000+ core codes, details can be seen on github: https://github.com/xkfengxd227/libxkfeng.

[1] **Feng Xiaokang**, Peng Yanguo, Cui Jiangtao etc. Locality Sensitive Hashing Index Based on Optimal Linear Order[J/OL]. Chinese Journal of Computers. 2020, 43(5): 930-947. (**CCF Chinese core journals ranked 1st**)

[2] **Feng Xiaokang**, Cui Jiangtao, Liu Yingfan, et al. Effective optimizations of cluster-based nearest neighbor search in high-dimensional space[J/OL]. **Multimedia Systems**, 2017, 23(1): 139-153. (CCF rank C, SCI-Q4)

[3] **Feng Xiaokang**, Cui Jiangtao, Li Hui, et al. An efficient LSH indexing on discriminative short codes for high-dimensional nearest neighbors[J/OL]. **Multimedia Tools and Applications**, 2019, 78(17): 24407–24429. (CCF rank C, SCI-Q4)

[4] Cui Jiangtao, **Feng Xiaokang**, Liu Chang, Hou Yongchao, Cai Yang. An index generation and data retrieval method and device: China, 201611170581.9[P]. 2020-5-12. (a Chinese invent patent, **Granted**)