**Conghui He** *(+86)15311775057* [*heconghui@gmail.com*](mailto:heconghui@gmail.com) Beijing

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| **BASIC SKILLS** |

* Technical： Best on C/C++ programming theory and practice

Solid understanding of Linux system management, Bash scripting

Extensive experience of **CUDA (GPU)** /**pthread (multi-thread)** /**MPI (cluster)** parallel programming

Skillful in parallel program profiling and optimization

Experienced at ARM/Linux Embedded System designing

* English： Do well in research discussion and daily communication

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| **EDUCATION** |

* Tsinghua University High Performance Computing PhD Candidate  *[2013 — Now ]*
* Sun Yat-sen University Software Engineering Bachelor *[2009 — 2013]*

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| **SCHOLARSHIP & AWARDS** |

* National Scholarship *[2009]*
* IBM Encouragement Scholarship *[2010]*
* Sun Yat-sen’s First Prize Student Scholarship *[2011]*
* Fourth Place in ISC12 International Super Computing Challenge *[2012]*
* First place in IEEE/IBM International Smarter Planet Challenge *[2013]*

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| **RESEARCH & PROJECTS** |

My research interest includes: **Computational Geophysics** and **Parallel Algorithms**. I’m experienced at the parallel algorithms design on modern computer architectures like **GPU**, **multi-core CPU** and **FPGA** processors to solve the computational challenge raised from exploration geophysical applications. Participated projects include:

* **Accelerating the Interactive Beam Migration on a CPU-GPU Hybrid Platform.**  *[Dec.2013 – Now]*

Cooperative project with Statoil, targeted at developing an interactive fast subsurface imaging method by taking full advantage of computational capacity from CPU-GPU hybrid platforms. Optimization strategies like exploiting GPU kernels for computational-intensive portions and a pipeline design for overlapping I/O transferring was applied. A best system resource utilization and over 10x speedup over the original implementation is achieved now.

* **Accelerating the Global Vegetation-Precipitation Correlation Algorithm.** *[Sep.2013 – Nov.2013]*

Startup Project for PhD candidate cooperated with a Professor in Remote Sensing field, aiming to accelerate the algorithm taking months to finish. Optimization strategies for it includes modifying the algorithm to reduce I/O accessing by utilizing local buffer, adding a memory pool to reduce frequent memory allocation/destruction, overlapping I/O transferring and computing. It gained 20x speedup in the end.

* **Reverse Time Migration Implementations on Configuring Platform.**  *[Mar.2013 – Jun.2013]*

Bachelor final year project, accelerating the Reverse Time Migration method on FPGA. The biggest computational challenge is the simulation of acoustic wave equation on a big 3D-mesh. Several algorithms like finite difference method which conduct to a stencil operator and pseudo-spectrum method which implicit FFT operator were accelerated and researched.

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| **EXTRA-CURRICULAR ACTIVITIES** |

* IEEE Tsinghua Student Branch Chair *[2013 – Now]*