

## Zhang, Honglin

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### EDUCATION

*University of Pennsylvania, Philadelphia, PA*

Master of Computer and Information Technology

May '14

*Tsinghua University, Beijing, China*

Bachelor of Science, Physics and Mathematics

July '12

### RELEVANT COURSEWORK

Computer Architecture, Operating System, Algorithms, Parallel Computing;  
Numerical Analysis, Numerical Methods for ODE, PDE and SDE, Probability Theory;  
Statistical Physics, Computational Physics, Stochastic Process, Nonlinear Dynamics.

### PROJECT EXPERIENCE

- **C Code Analyzer** A program written by a four-people group that analyzes function calls and variable references. Group leader, hand-on experience with text parsing.
- **C Compiler** A program converting C code to educational assembly language LC-3, with emphasis on stack, frame pointer and stack pointer.
- **RiemannCalc Package** Tensor calculation by hand may take hours, double checking the result is even longer. This is a Wolfram Mathematica symbolic computation package for Christoffel Coefficients and other quantities related to Differential Geometry and General Relativity.
- **Atmospheric Simulation on Distributed System** First started with OpenMP in C, later on rewrote with MPI. 4-dimension "matrix" numerical calculation, 10 GB scale data management, multi-core programming experience.
- **Hammurabi** (the resource management game) • **Eliza** (the chatting robot) • **Snake** (the classic Nokia game) • **Virtual Library System**

### PROFESSIONAL EXPERIENCE

**Core Member** Emacs Club, Sep '12 - Present  
Computer Science Dept, University of Pennsylvania

Discussion about Emacs packages and Elisp;  
Held tutorial sessions, *Emacs Quick Start*, *C/C++ Configuration* etc.

**Researcher** Bifurcation and Noise Impact of Helium Ionization Sep '10 - Aug '12  
in Strong Laser Field,  
Department of Physics, Tsinghua University

*Independent research experience, critical thinking and problem-solving oriented mind;  
Solid foundation of numerical methods and nonlinearity, chaos and noise;  
Program optimization experience with compiler and Vtune;  
Proficient with probability, statistics and stochastic process simulation;  
Proficient with OpenMP and MPI programming on clusters (512 cores).*

**Project Manager** Project Management Theme Week, Feb '10 - July '10  
Project Management Association, Tsinghua University

Leader in a ten-people team;  
Invited Vice President of Roland Berger China, Partner *Tao Chen* to lecture.  
Responsible for opening ceremony planning, team scheduling and on-site execution.

**Core Member** Coffee Meeting Committee, Feb '09 - Feb '10  
Department of Physics, Tsinghua University

Invited distinguished professors to lecture on cutting-edge research topics and overseas research experience for freshman and sophomores.  
Poster design, Site preparation and lecture coordination;  
Tsinghua- Peking University Physics Exchange Forum (May '09).

### RELATED SKILLS

Assembly, C/C++, FORTRAN, MATLAB, Mathematica, Python, Java, Elisp, OpenMP, MPI, SVN, Git, Bash/Unix, Intel Compiler,  $\LaTeX$ , Emacs

Fluent in English and Mandarin Chinese. Amateur in German (lived in Munich for a Month).