Mr. Hou, Junpeng

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Objective

To become a Ph.D. candidate in Physics (Gravitation and Cosmology, Quantum Information) program in fall 2016

Education Background

- Nanjing University of Aeronautics and Astronautics (NUAA), China 09/2012 - present
  - B.S. in Computer Science and Technology, excepted in 06/2016
  - GPA: 89/100 (Compulsory), 88/100 (Overall); Rank: $\leq 5\%$
- Pôle Universitaire Léonard de Vinci (ESILV), France 08/2015 - present
  - fully sponsored by China Scholarship Council

Research Experience

More details about my current work on https://timmyxu.me/hjp/

Physics

- *General theory of relativity and cosmology*
  Research work: Black Hole Thermodynamics, AdS/CFT with cutoff, Alternative Gravity
  - RA of Prof. Hu, Yapeng in program "Gravity/Fluid Correspondence", funded by National Natural Science Foundation of China (NSFC) under No.11105004 12/2012 - Present
- *Relativistic Stars (neutron stars)*
  Research work: EoS, Neutron stars in Alternative Gravity, Numerical Analysis
  - Collaborate with Prof. He, Xiaotao in project "Structural properties and synthetic mechanism of massive nuclear matters", funded by NSFC No.11275098 5/2015 - Present
- *Quantum Information and Quantum Calculation*
  Research work: Optimization of Quantum Algorithms, Simulation of Quantum Algorithms
  - RA of Prof. Xu, Juan in Laboratory of Gird and Cloud Calculation, NUAA and participate in project "Simulation of large-scale quantum circuit", funded by NSFC 61571266 10/2014 - 8/2015
  - Principal Researcher in project "Grove Algorithm in Cloud Computing and its Optimisation", funded by NUAA 12/2014 - Present
- *Applied acoustics*
  Research work: Data analysis and data processing
  - Participate in Dr. Xu, Lingyun's project "Improved EEMD in Single-Channel Blind Source Separation", funded by College of Science, NUAA 8/2014 - 10/2014

Computer Science

- *Artificial Intelligence*
  Research work: Overfitting in machine learning
  - Member of Laboratory of Artificial Intelligence (LAI), NUAA 11/2014 - present
  - Research work in Prof. Chen, Songcan's(the leader of LAI) group 11/2014 - 6/2015
- *Software Verification*
  Research work: Runtime checking for C programs
  - RA of Prof. Chen, Zhe in project "Technology of Software Reliability and its Theoretical Research", funded by NSFC under No. 61100034. 10/2012 - 4/2014
  - Leader of project "Design and Implement of Runtime-Checking Tools for Embedded C Program", granted by College of Computer Science and Technology, NUAA 12/2013 - 11/2014

- *ACM*
  Research work: Classic and modern algorithms
  - Member of ACM Laboratory, NUAA 08/2012 - 09/2013

Papers & Conferences

- Papers
  - Y.P.Hu, H.Zhang, J.P.Hou and L.Z.Tang, "Perihelion precession and deflection of light in the general spherically symmetric spacetime", Advances in High Energy Physics, 2014.
  - J.P.Hou, Z.Chen, Y.Shao, "Runtime Checking for General Non-Recursive Endless Loop", Academic Conference of Information Technology in Aeronautics (2014), Nanchang, China, 2014
  - Y.P.Hu, J.P.Hou and J.W.Xu, "Theoretical Derivation and Statistical Result of Σ-D Relation for Shell-Type Galactic Supernova Remnant," arXiv: 1501.05420 [astro-ph.HE]. (under reviewing)
  - C.B.Lu, J.Xu, J.P.Hou. "Efficient Simulation of Grover Algorithm in Cloud Computing". (under reviewing)
- Conferences
  - Annual Meeting of the Chinese Physical Society, Division of Gravitation and Relativistic Astrophysics, Hangzhou, China (Jun 2015)
  - Invited to do oral presentation at the Academic Conference of Information Technology in Aeronautics (2014), Nanchang, China (Nov. 2014)

Honors & Awards

- National Scholarship NO.201506830066, China Scholarship Council (2015)
- Enterprise scholarship, Jiangsu Province (2012, 2013, 2014, 2015)
- Third award for outstanding students, NUAA (2014)
- Third award for outstanding students, NUAA (2013)
- First prize in National Olympiad in Informatics Province, China Computer Federation (2011)
- Third prize in National Olympiad in Physics Province, Chinese Physical Society & China Association for Science and Technology (2011)

Standard tests

- TOEFL iBT 12/14/2014: **102** (R27 L29 S20 W26)
- GRE 05/23/2015: **325** (V155 (%67) Q170(%98))
- GRE SUB Physics 09/19/2015: **870** (%81) 10/24/2015: Not Scored

Skills

- Complex tensor calculation in General Theory of Relativity by TTC
- Numerical calculation with C/C++ especially with distributed manners like cloud computing and parallel computing like multi-thread computing
- Data analysis, processing and visualization in multiple platforms like Wolfram Mathematica, Matlab, Python, Ocaml, etc.
- Third Language: French (A1)
- Operating Systems: Linux (especially Ubuntu and Fedora), OS X
- Databases: MySQL, Oracle

Teaching Exprience

- TA of Prof. Zhe Chen in course "C programming language" (2013, semester one)
- TA in Summer Camp of Olympiad in Informatics, Jiangsu Province (2012)