-----Original Message-----
From: Michael Heath [mailto:heath@uiuc.edu]
Sent: Monday, December 29, 2003 12:28 PM
To: De Ruyter, Robert R.
Subject: recommendation for Wei Wang

This is a letter of recommendation for Wei Wang, who is a candidate for a position with your organization. I have known Wei since he entered graduate studies in computer science at Illinois four years ago. I have had numerous opportunities to interact with Wei, including having him as a student in my class and a regular participant in my weekly graduate seminar. I also served on the committee for his PhD qualifying examination, and I am currently serving on his PhD thesis committee, so I am quite familiar with his technical ability and potential.

I have been very strongly impressed by Wei Wang's ability and determination. He came to us with a somewhat unusual background, primarily in physics, but we felt that he had very strong potential for graduate study in computer science, and indeed he showed remarkable speed in mastering the standard CS graduate fare upon entering our PhD program. Wei's outstanding performance in the classroom included my graduate course in parallel numerical algorithms, in which he was one of the top three out of twenty graduate students. I would add that Wei's performance on our PhD qualifying examination in numerical analysis was among the two or three best I have seen in the dozen years I have been at Illinois. This is a very rigorous, 90-minute oral exam based on a syllabus that is both broad and deep. Many students wilt under the pressure, even some very bright ones, but Wei's confidence matched his exceptional mastery of the material, and his performance was truly superb.

Wei's background in physics has proved to be crucial to his success in his PhD thesis research on fast polarizable force field computations in biomolecular simulations, where cross-disciplinary expertise is required to understand the complex physical, biological, mathematical, and algorithmic issues. The primary aspect he has addressed is how to perform more efficiently the very expensive computations required to take polarization into account in evaluating force fields for N-body problems such as molecular dynamics. Wei's innovative new ideas have gained more than a factor of two in performance over the previous best methods for this problem. Moreover, Wei's work is having significant practical impact through its incorporation in the molecular dynamics software suite developed by Prof. Skeel along with his students and other collaborators.

On a more personal level, I would add that Wei has a very pleasant personality. He gets along well with others and works well in a team. His demeanor is modest, but by no means excessively reserved. Though English is not his native tongue, his communication skills in both written and spoken English are excellent. His oral presentation skills, in particular, have shown remarkable progress over the several terms in which he has participated in my weekly graduate seminar, where the students give most of the presentations. Wei is also extremely conscientious and reliable. I believe he has all the qualities necessary to become a highly successful teacher and/or researcher in an academic or other research organization, especially one that emphasizes interdisciplinary research.

In summary, Wei Wang is an outstanding intellect, a creative and productive researcher, and a dedicated and energetic scholar. He has a broad knowledge of physics, chemistry, biology, mathematics, and computer science that enables him to tackle successfully interdisciplinary research in computational science that others would find most daunting. I believe he would be an outstanding fit for an academic department or other research group exploring exciting new areas such as computational biology and bioinformatics. He is one of the best PhD students we have produced in recent years, and I recommend his in the strongest terms.

Sincerely,

Michael Heath
Professor and Fulton Watson Copp Chair in Computer Science Director,

Computational Science and Engineering

Prof. Michael T. Heath
www.cs.uiuc.edu
Fulton Watson Copp Chair in Computer Science www.cs.uiuc.edu
Director, Computational Science and Engineering www.cse.uiuc.edu
Director, Center for Simulation of Advanced Rockets www.csar.uiuc.edu
2262 Digital Computer Laboratory, MC-258 Email: heath@uiuc.edu
University of Illinois at Urbana-Champaign Phone:
217-333-6268
1304 West Springfield Avenue
Fax: 217-333-1910
Urbana, IL 61801-2987
