



**Kaibo Wang, Ph.D.**  
**Seattle, Washington, United States**

Dear Dr. Wang,

I am glad to tell you that the Fixstars' Geometric Performance Primitives (GPP) library, which is an industry-leading computational geometry engine for advanced graphical information systems, electronic design automation, computer vision and motion planning solutions has been effectively developed based on one of your research results. Specifically, the **PixelBox** algorithm of yours lays a scientific foundation for massive polygon overlay operations, which enabled us to achieve a huge performance advantage (up to 25 times faster) over other similar industry products.

The above mentioned research impact comes from your paper entitled "Accelerating Pathology Image Data Cross-Comparison on CPU-GPU Hybrid Systems" that was presented in The 38<sup>th</sup> International Conference on Very Large Data Bases in August 2012 in Istanbul, Turkey, and was published in the Proceedings of the VLDB Endowment 5, No. 11 in 2012. The authors of the paper are Kaibo Wang, Yin Huai, Rubao Lee, Fusheng Wang, Xiaodong Zhang, and Joel H. Saltz. This paper presents the PixelBox algorithm and its implementation on CPU-GPU systems with a complex case study of pathology image processing. Thank you and your co-authors for the research contributions, algorithmic insights, and technical support to the GPP library.

Yours sincerely,

Akihiro Asahara  
CEO, Fixstars Solutions Inc.