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February 5, 2009

Dr. Lawrence Mays, Chair
CS Chair Search Committee
Department of Computer Science
University of North Carolina at Charlotte
9201 University City Blvd
Charlotte, NC 28223

Dear Dr. Mays:

I enthusiastically support Dr. Fuhua (Frank) Cheng's application for the position of Chair of the Department of Computer Science, University of North Carolina at Charlotte.

I am a Technical Leader within the Vehicle Design Department of Ford's Research and Advanced Engineering. My expertise includes Computer-Aided Design (CAD), Manufacturing (CAM) and computer graphics. I lead a research group that develops advanced modeling and simulation technologies to help our vehicle programs improve quality and customer satisfaction. Outside Ford, I am an Adjunct Professor of Electrical and Computer Engineering, College of Engineering, Michigan State University. I hold a Ph.D. degree in Naval Architecture and Marine Engineering from the University of Michigan, Ann Arbor.

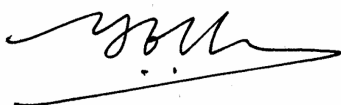
I first came to know Dr. Cheng as a preeminent expert in Geometric Modeling and Optimization in the early 90s. My actual relationship with Dr. Cheng started 1996 when he and I developed a proposal together to seek funding from Ford's University Research Program (URP) - a highly competitive program with a success rate about 10%. Our proposal addressed the need to bring manufacturing issues early in the design stage. Dr. Cheng's vision and initiative to create high quality manufacturable free-form surfaces using constrained optimization led to a very competitive proposal well-received by Ford. As a result, we won the competition and the proposal was awarded three years of funding from 1997 to 2000.

With the establishment of this project, I had the opportunity to work with Dr. Cheng regularly. Dr. Cheng struck me as a friendly, open-minded, energetic and motivating individual. He impressed me with his intellectual talent, innovation spirit, and deep expertise in CAD, computer graphics, numerical computation and optimization. He impressed me with his skillful analytical problem solving ability as well. Under his leadership, his team at University of Kentucky developed a comprehensive suite of technologies and tools. They allow the designer to create aesthetically-pleasing surfaces that are manufacturable and satisfy engineering constraints. Prototype software developed by his team was installed at Ford for evaluation. Results were introduced by Ford to its then CAD partner SDRCTM/ImageWareTM, who not only learned and benefited from them, but also offered their commercial CAD surfacing software to Dr. Cheng for free. Part of this URP work was later extended through a NSF grant Dr. Cheng won. Several papers were published as part of this work. These results represented the best a URP project can be expected of and what Dr. Cheng achieved set a new standard for the program.

Through our interaction, I also found Dr. Cheng a very effective manager of his research group. He knew how to lead, where to lead and how to motivate his people to achieve their best. He was very conscious about resources and managed to use them wisely. He demonstrated excellent planning and execution skills by setting realistic goals, being thorough, carefully designing every stage of the project and propelling his team to deliver results on time. He diligently documented the work and kept Ford informed of the progress throughout the three-year period. He always responded to Ford's needs promptly and thoroughly. We were very pleased with his execution of this project.

After the completion of the URP project, I briefly followed Dr. Cheng's research on subdivision surfaces. I held technical discussions with him, reviewed his NSF proposal and offered my support. The proposal won NSF's funding and generated several quality technical papers. Over the years I have witnessed Dr. Cheng's outstanding accomplishments, leadership quality, technical vision and skills; and I believe he has the experience working in a computer science department of which the research programs are nationally competitive. I, therefore, strongly recommend him for the position of Chair of the Department of Computer Science, University of North Carolina at Charlotte.

Sincerely,



Yifan Chen