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Prof. Dr. Metin Sitti
President

19.09.2025

Letter of Recommendation for Hakancan's UK Global Talent Visa Application

To Whom It May Concern,

It is with great pleasure that I write this letter of recommendation for Hakancan. Having directly supervised his research as former Director of the Max Planck Institute for Intelligent Systems, I can state that Hakancan has strong skills and interest in computational science simulations and artificial intelligence.

I first encountered Hakancan when he reached out to me in 2022 seeking a research experience opportunity. At the time, he was still pursuing his mechanical engineering degree at Koç University but had already distinguished himself as a top student, achieving early graduation by completing his four-year degree in just three years with a GPA of 3.99/4.00. Given his exceptional academic performance and potential, I accepted him into our research program for three months in Stuttgart, followed by continued online collaboration spanning nearly two years.

What distinguished Hakancan was his strong technical problem-solving abilities. Before he joined our group, we were conducting computational physics simulations on local computers, severely limiting our research scope. Hakancan took the initiative to collaborate with our IT engineers to successfully install and configure COMSOL software on our high-performance computing infrastructure, the first researcher in our institute to achieve this integration. He then developed parallelization strategies and innovated job scheduling methods with optimized parameters that streamlined the experimentation parameter space, accelerating my PhD researchers' simulations by 200x and enabling previously intractable research problems. During his time with us, he worked closely with Ugur Bozuyuk, a PhD student at the time, on magnetic microroller research for medical applications.

Our collaboration resulted in multiple high-impact publications, including:

- "Microrobotic Locomotion in Blood Vessels: A Computational Study on the Performance of Surface Microrollers in Cardiovascular System" Advanced Intelligent Systems, 2023

- "The Mismatch between Experimental and CFD Analyses for Magnetic Surface Microrollers" Nature Scientific Reports, 2023
- "Anisotropic Surface Microrollers for Endovascular Navigation: A Computational Analysis with a Case Study in Hepatic Perfusion" Advanced Theory and Simulations, 2025
- "Locomotion Behavior of Magnetic Microrollers in Confined Tubular Geometries Containing Shear-Thinning Fluids" MARSS Conference Paper, 2025

where Hakancan was co-first author on several publications. The computational advancements he achieved contribute to improving cancer treatment and drug delivery by enabling more sophisticated modeling of microrobotic systems for targeted medical applications. His expertise in AI/ML computational modeling will be invaluable to the UK's digital technology sector.

Hakancan stands out for his technical abilities and practical problem-solving approach. His work on computational optimization has had genuine impact on our research capabilities and demonstrates strong potential for future leadership in digital technology. He has expressed plans to contribute to the UK's technology sector, and I am confident his track record will enable significant contributions to the UK's innovation ecosystem.

I strongly endorse Hakancan's application. His track record of delivering research outcomes and potential in computational innovation makes him valuable talent for the UK's technology sector.

Sincerely,

Prof. Dr. Metin Sitti
President, Koç University
Former Director, Max Planck Institute for Intelligent Systems
Member of National Academy of Engineering (NAE)