

On February 24, 2024,

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Subject: Letter of Recommendation for Mr. Subramanian

Dear,

I am writing to highly recommend Mr. Subramanian for a position within your research institute. I have had the pleasure of working with Mr. Subramanian during his academic journey, and his outstanding qualities make him an exceptional candidate.

As an assistant professor at ISAE-ENSMA, I have been actively involved in teaching heat transfer and statistical physics to engineering students pursuing master's degrees. Additionally, my research at the Pprime laboratory (UPR 3346 CNRS) focuses on developing temperature measurement tools for fluids, including both intrusive and non-intrusive methods. These techniques are applied to investigate convective heat transfers in turbulent flows or optimize the mixing phenomenon in anisothermal flows.

I first encountered Mr. Subramanian during his Master's first year when he approached me with a proposal for his research internship. From the outset, I observed his dynamism, motivation, exceptional communication skills, and profound scientific curiosity. Impressed by his qualities, I endeavored to secure Ph.D. funding for Mr. Subramanian following the completion of his Master's degree.

During his Master's program, I asked to Mr. Andrea Andreini, an Italian colleague from the University of Firenze, specializing in numerical studies for turbomachinery optimization, to welcome Mr Subramanian for Master 2 internship. Within this framework, Mr. Subramanian honed his skills in cfd numerical simulations.

Mr. Subramanian's Ph.D. thesis focused on investigating the impact of upstream auxiliary holes on a jet discharging into a turbulent transverse flow. These auxiliary jets enhance wall filmcooling efficiency, and Mr. Subramanian executed this research with exceptional dedication. He designed and implemented the BATH test bench, introduced innovative temperature measurement techniques using ZnO phosphorescence emission in the air, and conducted RANS and LES simulations of the studied flows.

**INSTITUT Pprime . CNRS . UNIVERSITÉ DE POITIERS . ENSMA . UPR 3346 .**

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His thesis significantly elevated the international standing of the Pprime laboratory in the field of hot wall cooling for aeronautical engines. This success facilitated collaborations with industry leaders such as Safran Aircraft Engines and Safran Helicopter Engines.

In light of Mr. Subramanian's scientific expertise and outstanding personal qualities, I wholeheartedly recommend his recruitment to your esteemed research institute. I am confident that his contributions will be invaluable to your team.

Please feel free to contact me if you require any further information.

Sincerely,



Gildas Lalizel