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Berlin, 29 January 2024

Reference Letter: Karanjot Singh

To whom it may concern:

My name is Dr. Joseph De Veugh-Geiss. I am *Project & Community Manager* in the KDE Eco initiative, a project focused on energy and resource efficiency in software design. I also work as *Internal Communications & Community Manager* for the KDE software development non-profit.

As a former mentor and current colleague to Mr. Karanjot Singh in the *Season of KDE* mentorship program, as well as his former counselor in *Google Summer of Code*, I am honored to write him this letter of recommendation for a student internship at CERN. I wholeheartedly recommend Mr. Singh for the program. I am certain that with his software engineering potential, his excellent communication skills, and his community engagement, an internship at CERN will foster future long-term success.

Over the past two years, Mr. Singh has been contributing his coding skills to develop tooling for KDE's energy-consumption measurement lab as part of the KDE Eco project, an initiative which aims to measure and reduce the energy consumption driven by software. In the *KEcoLab* project, a project he proposed for funding, Mr. Singh fully automated the energy-consumption measurement workflow and integrated KDE's remote measurement lab located in Berlin, Germany into the Continuous Integration pipeline in GitLab. This important work enables KDE developers, wherever they are globally, to obtain energy consumption reports for new software releases directly in the development process. Mr. Singh's work goes beyond this, though: he has also collaborated on the development of user-emulation scripting, in particular the *KdeEcoTest* tool, to simulate real-world user behavior in a replicable way for energy-consumption measurements. This work is crucial

for KDE in order to have data-driven decision making for the development of efficient software as well as user outreach.

Mr. Singh not only continued to contribute to KDE Eco after completing his first mentorship program with us in 2022, but he began mentoring participants in *Season of KDE* in 2023 and 2024 as well, and has motivated several new contributors to join the program. One project Mr. Singh assisted in mentoring was even featured in the popular German tech online magazine Heise.de (<https://www.heise.de/news/Season-of-KDE-2023-Weitere-Schritte-zur-nachhaltigen-Desktop-Umgebung-8989974.html>). Given his outstanding contributions to the KDE Eco initiative, it was no surprise when Mr. Singh received funding in the *Google Summer of Code* program for his *KEcoLab* project proposal in the spring of 2023.

Beyond coding, participants in KDE's mentorship programs are expected to regularly communicate both their achievements as well as their challenges in blog posts and internal status reports. Communication is critical for the Open Development process, and Mr. Singh's contributions stood out. His blog posts were both informative and a pleasure to read, a difficult combination to achieve.

KDE is an international community working on the development of Free & Open Source Software (FOSS), including applications for communication, work, education, and entertainment. We have a strong focus on finding innovative solutions to old and new problems, and creating a vibrant and open atmosphere for experimentation, such as in our mentorship programs. Each year KDE organizes *Season of KDE* to mentor new contributors in our community, and participates in *Google Summer of Code*, a program sponsored by Google to help developers start contributing to FOSS. In the past three years, participation and overall performance in KDE's mentorship programs has been very high, and Mr. Singh has been one of the main contributors to their excellence!

For the above reasons, I wholeheartedly recommend Mr. Singh for the program. I have no doubt he will be an excellent asset to the team at CERN.

Best regards,



Dr. Joseph De Veagh-Geiss

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