From Professor Vincent Berry
To whom it may concern
Object : Internship certificate for Sumit Kumar

Montpellier, July 15th 2019

As a professor at the LIRMM, a computer science lab hosted by Montpellier University and co-funded by the French national center for research — CNRS, I supervised a training period that Sumit Kumar performed in our bioinformatic team.

Sumit Kumar worked with us for a period of two months in 2019 in the context of the *Genome Harvest* multidisciplinary project. His mission was to develop modules for a data science program that infers evolutionary histories from large sets of raw data (here, biallelic markers such as SNPs, RFLPs and SINEs). These modules were to work on the galaxy platform, aimed at biologists who want to run this inference program on their datasets.

At the start of his internship, Sumit Kumar started to follow three days of courses on UNIX operating systems and Python programming at the Polytech engineering school.
Then he started to implement the galaxy modules by working from a remote terminal through a VPN. During the two months he spent with us, Sumit Kumar gradually increased his skills in programming, Unix commands and in the XML format, used to describe modules on the galaxy platform. He also learned the syntax for launching jobs on a computing cluster, to which our galaxy platform is connected.

Sumit Kumar managed his mission successfully, which necessitated to interact with persons of three labs belonging to different fields of study: computer scientist at the LIRMM, agronomists at the CIRAD (center for agronomic research and development) and biologists at the ISEM lab (lab focused on Evolution). This shows that he understood his mission and successfully interacted with researchers and engineers involved in the project. His good level of English helped him a lot in his achievement.

Sumit Kumar is a very motivated student, eager to learn, that does not deviate from his aim until he succeeds in it. It was nice to work with him during his internship. After his Bachelor of Science, he aims at pursuing studies in a Masters program on Data Science, a field for which he has with no doubt the motivation.

Vincent Berry