Abstract of proposed student project (1 page limit. This should mirror the aims page of a grant and CLEARLY ndicate the student's role.)

The family *Sunviridae* includes the genus *Sunshinevirus* and a single species, *Reptile sunshinevirus 1*. The founding member of the family is an enveloped, negative-sense, single-stranded RNA virus with a linear genome of 17,187 base pairs. The virus was isolated during an outbreak of neurorespiratory disease in a collection of Australian pythons along the Sunshine Coast of Australia. More recently, a second sunshinevirus species was characterized from moribund sidewinder rattlesnakes (*Crotalus cerastes*) that were part of a snake collection in the United States. In 2021, a mortality event at a commercial venom laboratory in Florida resulted in the loss of approximately 70 captive snakes. Affected snakes appeared lethargic and showed no signs of respiratory distress. Frozen tissue samples from five snakes were then sent to the UF Wildlife and Aquatic Veterinary Disease Laboratory in Gainesville, FL. All PCR assays targeting typical snake viruses were negative, and the metagenomic analysis revealed the presence of a virus with a high degree of identity to the sunshine coast virus. In this project, the student will perform phylogenomic analysis by comparing the virus genome recovered from the samples mentioned above to other sunshinevirus sequences to determine viral taxonomy and species or strain variations, if any.

The significance for Veterinary Medicine and the student: The student will learn next-generation sequencing and phylogenomic analysis. This research is feasible within the 3-month internship, and Dr. Subramaniam and his team will work closely with the student to ensure success. The student also encouraged to develop their own poster and present it at the local and regional meetings.