
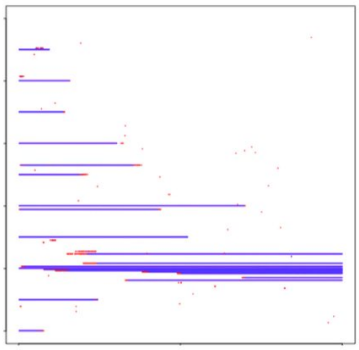

Do you want a chance to develop web-based tools and animations that communicate scientific results to other scientists and the general public? I run a research lab at University of Calgary with a focus on using computer simulations to study how organisms adapt to their environment. Evolutionary biologists have generated a range of very interesting models about how evolution works, and we would like to make these results easier for people to understand. Animations provide a very accessible way to communicate these results.

**I am looking for a talented and creative programmer that can build a platform to visualize the results of our computer simulations.** The ultimate aim would be to develop a range of animated simulations and build a website to host them, providing an interactive platform where users could alter a given parameter and watch the effect of the parameter on the behaviour of the simulations.

A static example of how this might look is here:
https://www.youtube.com/watch?v=4pdiAneMMhU

But I would like to develop something more interactive, perhaps similar to this visualization of confidence intervals in statistics:
http://www.zoology.ubc.ca/~whitlock/Kingfisher/CIMean.htm

Eventually, it would be nice to have simple intuitive animations for the general public paired with more quantitatively explicit and scientifically informative animations of the same scenarios that would be useful for scientists.

The position is available to start immediately, or whenever is convenient for the right applicant, and could be framed within a range of possible positions (grad student, postdoc, research associate, consultant). The ideal applicant would have a strong sense of design and aesthetics, expertise in some programming language suited to visualizations, and an advanced understanding of evolutionary biology and statistics, although the former two criteria are most important. The simulation engines driving the planned visualizations are already well-developed (Nemo, SLiM) and I have active working relationships with their developers. I currently have funding in place until August 2022, several UNIX servers that could act as web-based hosts and development platforms, and access to large clusters for simulation and testing. My research lab currently has 4 postdoctoral fellows, 1 PhD student, and 3 masters students, and is a friendly and dynamic place to work (https://yeamanlab.weebly.com/). Calgary is vibrant and rapidly growing city of over a million people, less than an hour's drive from the Rocky Mountains. The position will run until funding runs out, but I anticipate that once a preliminary platform is developed, we can expand the funding stream and the scope of this project dramatically through further grant applications. Thus, this could become a long-term position limited only by our imagination. **Salary negotiable depending on experience.**

**IF YOU WOULD LIKE TO APPLY:** Please send a CV or resume to samuel.yeaman@ucalgary.ca, along with examples of previous work in programming and visualization, and some statement about why you are interested in the position and any ideas you have about pushing it forwards.