Topic: Distributed Annotation of High Resolution Biological Images

Speaker: Dr. Eric C. Rouchka, University of Louisville

Abstract

Background: Biological imaging techniques coupled with the affordability of large scale storage systems has made it possible to construct databases of high resolution images. It is not uncommon for such images to exceed 500 Mb in size. Conventional approaches for viewing and manipulating these images have typically been reserved for desktop applications that tend to be slow and resource-exhaustive. While this sort of approach may be acceptable for single user applications, the internet has made the possibility for geographically sparse research teams to form. Bandwidth bottlenecks do not allow for the effective real-time sharing of these high resolution images without loss of detail due to image compression.

Results: We have created a system, YMAGE, for the storage, distribution, and shared annotation of high resolution images. Users of the YMAGE system will be able to create and connect to YMAGE registered servers distributed across the internet. YMAGE allows for the resolution of the images to be maintained by only requesting and sending the viewable region of the image, which can be changed by using zooming utilities. YMAGE users login to a shared user database where they are validated. Each image can be assigned as belonging to a group of users, including a public group. Users are able to view annotations for each image assigned by various research groups, and are able to add their own annotations as well.

Bio:

Dr. Rouchka received his D.Sc. degree in Computer Science from Washington University in 2002. Since that time, he has been a faculty member of the Computer Science and Engineering Department at the University of Louisville where he is the Director of the Bioinformatics Laboratory. He is currently a member of ACM, the International Society for Computational Biology, and the Kentucky Academy of Sciences

The Seminar is free and open to the public. A reception and social time with the speaker starts at 3:00 pm.