
Graduate student positions in Bioinformatics / Computational Biology

Two graduate student positions (MS or Ph.D.) with research assistantships are available in the Department of Plants, Soils, and Climate / Center for Integrated Biosystems (CIB) in the College of Agriculture and Applied Sciences (CAAS) or in the Department of Computer Science, College of Engineering at the Utah State University (USU). The research projects available are within the general areas of bioinformatics, computational systems biology, biological bigdata mining, comparative genomics, and functional genomics. Current research involves the development and application of new algorithms and computational methods for analyzing high-throughput and large-scale biological data, including (i) develop algorithms to study intra- and inter-species interaction networks (e.g. host-pathogen interactions), (ii) predict Gene Regulatory Networks, (iii) Metagenomics (e.g. rhizosphere microbiome interacting with the host), and (iv) Next-generation sequencing data (analysis, alignment, assembly, annotation). Projects in other areas of interest are a possibility.

The students are expected to develop computational workflows to facilitate data mining in the above areas, develop and maintain bioinformatics software (prediction tools and databases). Students with prior knowledge and expertise in Supervised learning (Machine Learning) and Unsupervised learning (Bayesian-based) methods will be given preference. Knowledge or experience in using scripting languages (Perl, Python) and statistical/mathematical toolkits (e.g. R, Matlab) with some kind of programming experience in any of the languages (C / C++ / Java) is highly desirable.

Graduate students enrolled will be trained in a multidisciplinary environment and will have opportunities to collaborate with plant / animal biologists, mathematicians, statisticians, computer scientists, and biological engineers. Both degree options in either Computer Science or Plant Science are available.

Candidates with background in either computer science, plant / animal biology, engineering, physics, mathematics are encouraged to apply for these graduate student research assistantships. Prior to formally applying for admission, applicants are encouraged to submit a detailed resume, unofficial transcript, a statement of research interests, and the names and contact information of at least three references to Rakesh Kaundal (rkaundal@usu.edu). Review of applications will begin immediately.