

Curriculum Vita

Michael Hamilton

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Education

- MSc/PhD Computer Science, Colorado State University, Fort Collins, CO, (In Progress)
- BS Computer Science, Minor Mathematics, Colorado State University, Fort Collins, CO, 2006
- Russian Linguist Certification, Defense Language Institute, Monterey, CA, 2000

Academic Appointments

Graduate Research Assistant Colorado State University, 8/2007 - present

- Predicting calmodulin-binding proteins using support vector machines, hidden Markov models and structured output methods
- Predicting alternative splicing events in *Arabidopsis* using kernel methods

Research Fellow Iowa State University, Computational Biology Summer Institute, 6/2007-8/2007

- Generating a structural model of human telomerase reverse transcriptase using *in silico* techniques
- Predicting interaction sites on the model and assessing their biological relevance.

Graduate Teaching Assistant Colorado State University, 6/2006-5/2005

- Courses assisting: Introduction to Artificial Intelligence, Unix, C, Advanced C
- Teaching programming concepts of Python, C, and UNIX Scripting
- Explaining algorithms related to Artificial Intelligence
- Writing Python/BASH scripts to evaluate student assignments

Student Scientist Colorado State University, 5/2006-8/2006

- Conducting protein-protein interaction research using supervised machine learning techniques
- Advisor: Dr. Asa Ben-Hur

Student Scientist Colorado State University, 6/2005-8/2005

- Reverse-engineering an Eclipse plug-in that tests UML designs
- Designing and implementing a GUI to illustrate the sequence diagram of the testing process
- Participating in a team environment to develop a large-scale software product

Publications

- C. Ross, J. Toombs, B. McCarty, Michael Hamilton, R..Wickner, A. BenHur and E. Ross. Promiscuous interactions of the Ure2p prion domain. (In progress).
- J. Lee, M. Hamilton, C. Gleeson, C. Caragea, P. Zaback, J. Sander, X. Li, F. Wu, M. Terribilini, V. Honavar, and D. Dobbs. Unexpected similarities in structure and nucleic acid binding sites of diverse telomerase proteins revealed by combining structure prediction and machine learning approaches. Pacific Symposium of Biocomputing, 2008.
- Trung Dinh Trong, Sudipto Ghosh, Robert B. France, Michael Hamilton, Brent Wilkins. UMLAnT: An Eclipse Plugin for Animating and Testing UML Designs. Eclipse Technology Exchange Workshop, in conjunction with OOPSLA, San Diego, USA, October 15-16, 2005.

Activities

- Poster/Presentation: Identifying DNA, RNA and protein binding interfaces in human telomerase. 16th Annual Growth Factor and Signal Transduction Symposium: Senescence, Aging and Cancer, 2007.
- Poster co-author: Combining structural modeling, evolutionary information, and machine learning to improve prediction of nucleic acid binding sites in telomerase. Fifth Annual Rocky Mountain Bioinformatics Conference, 2007.
- Poster co-author: Generating models as a platform for comparing functional and structural elements of telomerase. Midwest Symposium on Computational Biology and Bioinformatics, 2007.
- Member of Upsilon Pi Epsilon, Honor Society in the Computing and Information Disciplines.
- Research member of the Molecular Plant Biology Department at Colorado State University.

Memberships

- American Statistical Association
- International Society for Computational Biology
- Association for Computing Machinery

References

Upon request