

Jivko Sinapov

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Education

2005-Present: **Ph.D. candidate in Computer Science, Iowa State University, USA**
Adviser: **Alexander Stoytchev**

2001-2005: **B.S. in Computer Science, University of Rochester, NY**

Research Areas of Interest

My primary area of interest is in the field of Developmental Robotics. In particular, I study how a robot can learn the properties of objects in the real world using computational models of learning and development. I am also interested in Machine Learning, Data Mining and Knowledge Discovery, Probabilistic Graphical Models, Artificial Intelligence and their applications in Robotics and Bioinformatics.

Publications and Research Reports

Journal Papers:

Caragea, C., Sinapov, J., Silvescu, A., Dobbs, D., and Honavar, V.
Glycosylation site prediction using ensembles of Support Vector Machine classifiers, *BMC Bioinformatics* 2007, 8:438

Conference Papers:

Sinapov, J., and Stoytchev, A.
Detecting the Functional Similarities Between Tools Using a Hierarchical Representation of Outcomes, *To appear in proceedings of the IEEE International Conference on Development and Learning (ICDL 2008)*.

Sinapov, J., and Stoytchev, A.
Learning and Generalization of Behavior-Grounded Tool Affordances, *In proceedings of the IEEE International Conference on Development and Learning (ICDL 2007)*.

Caragea, C., Sinapov, J., Dobbs, D., and Honavar, V.
Assessing the Performance of Macromolecular Sequence Classifiers, *In Proceedings of the IEEE Conference on Bioinformatics and Bioengineering (BIBE 2007)*.

Short Papers and Posters:

Sinapov, J., Stoytchev, A.

Toward Autonomous Learning of an Ontology of Tool Affordances by a Robot. *Accepted to the Student Abstract/Poster Program at AAAI, 2008.*

Sinapov, J., Caragea, C., Dobbs, D., and Honavar, V.

Using Global Sequence Similarity Improves Biological Site-Specific Classifiers. *Accepted to the 16th Annual International Conference On Intelligent Systems For Molecular Biology Poster Program, Toronto, Canada (ISMB 2008)*

Sinapov, J., Stoytchev, A.

Learning Behavior-Grounded Tool Affordances with Generalization Across Different Tools. *Presented at the Workshop on Robot Manipulation at the Robotics Science and Systems Conference (RSS 2007).*

Caragea, C., Sinapov, J., Terribilini, M., Dobbs, D., and Honavar, V.

Assessing the Performance of Macromolecular Sequence Classifiers. *Accepted to the 15th Annual International Conference On Intelligent Systems For Molecular Biology and the 6th European Conference on Computational Biology, Poster Program, Vienna, Austria (ISMB/ECCB 2007)*

Caragea, C., Sinapov, J., Silvescu, A., Dobbs, D., and Honavar, V.

Glycosylation Site Prediction using Machine Learning Approaches. *Accepted to The Eleventh Annual International Conference on Research in Computational Molecular Biology, Poster Program, Oakland, California (RECOMB 2007)*

Caragea, C., Sinapov, J., Silvescu, A., Dobbs, D., and Honavar, V.

Learning Classifiers to Predict Glycosylation Sites in Proteins. *Accepted to The 4th Annual Rocky Mountain Bioinformatics Conference, Poster Program, Aspen/Snowmass, Colorado (Rocky 2006)*

Computer Skills:

Programming languages:

Java, C, C++, Matlab, Lisp, Scheme, COBOL, JASP, Prolog, Visual Basic (can become proficient in other languages)

Programming Projects and Courses:

Computer Vision, Machine Learning, Robotics Control, Artificial Intelligence (AI), Logical and Mathematical Foundations of AI, Statistical Modeling and Inference.

Other

L^AT_EX, Macromedia Flash, 3D Studio Max

Teaching Experience:

Mentor for the NSF Research Experience for Undergraduates (REU) Program at Iowa State University

Provide research guidance and help to three undergraduate students working with the Barrett WAM robot. *Summer 2008*

Teaching Assistant/Workshop Leader, Department of Computer Science, University of Rochester

CSC 171: **Computer Programming**

Fall 2004

CSC 172: **Data Structures**

Spring 2005

Artificial Intelligence/Machine Learning Seminar

Department of Computer Science, Iowa State University

Gave presentations, helped organize the seminar coordinated by Dr. Honavar *Fall 2005-present*

Professional Activities

Reviewer

Indian International Conference on Artificial Intelligence, International Joint Conference on Artificial Intelligence

Professional Societies Membership

Member of American Association for Artificial Intelligence (AAAI)

Research Assistantships:

Graduate Research Assistant, Virtual Reality Applications Centers (VRAC), Iowa State University. *Fall 2006-present*

Work Experience:

Cobol Programmer

Administrative Services, Iowa State University

Fall 2005-Spring 2006

Software Developer

Truth-n-Beauty Software, LLC.

Summer 2003-Summer 2005

Undergraduate Research Assistant

Department of Computer Science, University of Rochester, NY

Fall 2004-Spring 2005