PAVEL KUKSA

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Research Interests

- Machine learning, algorithms, data mining, pattern recognition, natural language processing, sequence analysis, bioinformatics, computer vision

Education

- **Ph.D.**—Computer Science, Fall 2005-present
  Rutgers University, NJ
  - GPA: 4.00
  - Projected Graduation Date: Sept. 2010
- **M.Sc.**—Computer Science, 2004
  Bauman Moscow State Technical University, Moscow, Russia
  - GPA: 5.00/5.00
- **B.Sc.**—Computer Engineering, 2002
  Bauman Moscow State Technical University, Moscow, Russia
  - GPA: 4.96/5.00

Technical Skills

- **Programming Languages:**
  - Proficient in C/C++, Java, Matlab, Pascal, JavaScript, Assembly
  - Familiar with Python, Lua, Perl, SQL, Lisp, Prolog, VBScript, VBA, VHDL, R
- **Tools and Systems:**
  - Matlab, Eclipse, WebSphere
  - Web development: HTML, XHTML, CSS, XML, Dreamweaver
- **Operating Systems:** Linux (Fedora, Red Hat, Ubuntu, ASP), Windows 9x/2000/XP/2003

Research and Industry Experience

- **Research assistant**—Rutgers University
  2005-present
  - Discriminative learning, string algorithms, large-scale learning, semi-supervised learning
  - Kernel methods and algorithms for general sequence classification: DNA barcoding, remote homology prediction, text categorization, etc.
  - Natural language processing
  - Clustering and classification of video motion sequences and audio data
- **Research Assistant**—NEC Laboratories America, Princeton, NJ
  May 2009 – August 2009
  - Semi-supervised large-scale learning for bioNLP (natural language processing for bio-medical literature). Supervisor: Dr. Yanjun Qi
- **Research Assistant**—NEC Laboratories America, Princeton, NJ
  May 2008 – August 2008
  - Unified Architecture for Natural Language Processing, multi-task learning with deep architectures. Supervisor: Dr. Jason Weston
- **Software Engineer**—Mobile Business Systems
  2003–2005

Teaching Experience

- **Teaching Assistant**—Rutgers University
  2005–2009
  - **Graduate courses**: CS530 "Principles of AI", CS535 "Pattern Recognition", CS536 "Machine Learning"
  - **Undergraduate courses**: CS440 "Introduction to Artificial Intelligence", CS206 "Discrete Structures II", CS170 "Computer Applications in Business"
- **Lecturer/Instructor**—BMSTU
  2002
  - "Systems Modeling"

Selected Publications

- **Published 18 articles in journals and conference proceedings. Sample of these includes:**

  Pavel Kuksa, Yanjun Qi. Semi-Supervised Bio-Named Entity Recognition with Word-Codebook Learning. In *SDM*, 2010.

  Pavel Kuksa, Pai-Hsi Huang, and Vladimir Pavlovic. Scalable algorithms for string kernels with inexact matching. In *NIPS*, Spotlight Presentation, 2008.

  Pavel Kuksa, Pai-Hsi Huang, and Vladimir Pavlovic. Fast protein homology and fold detection with sparse spatial sample kernels. In *ICPR*, Oral presentation, 2008.

  Yanjun Qi, Pavel Kuksa, Ronan Collobert, Koray Kavukcuoglu, Jason Weston. Semi-Supervised Sequence Labeling with Self-Learned Features. In *ICDM* (regular paper), 2009.

  Pavel Kuksa, Pai-Hsi Huang, Vladimir Pavlovic. Efficient use of unlabeled data for protein sequence classification. BMC Bioinformatics, 2009.

  Pavel Kuksa and Vladimir Pavlovic. Fast kernel methods for SVM sequence classifiers. In *WABI*, pages 228–239, 2007.

Invited talks

- String kernel-based Species Identification Using DNA Barcodes. Joint Molecular Biosciences Symposium, Feb. 2008.
- Kernel Methods for DNA Barcoding. Rutgers Bioinformatics meeting, Nov. 10, 2006

Honors and Awards

- DIMACS Graduate Student Award, 2008/2009
- Graduate Fellowship, Rutgers University, 2005-2007
- President of Russia's Award, 2003-2004
- University Scientific Board Scholarship, BMSTU, 2002-2003
- Academic Excellence Award, BMSTU, 2001-2002
- M.Sc. with Honors, 2004
- B.Sc. with Honors, 2002

Professional Activities

- Reviewer for CVPR, ICML, ICPR, BMC Bioinformatics, Neural Networks
- Co-organizer, Yahoo Machine Learning seminar series, 2009
- Secretary, Rutgers Compute Science Graduate Student Society, 2007–2008
- Treasurer, Rutgers Computer Science Graduate Student Society, 2006–2007
- Secretary, Rutgers Bioinformatics Club, 2006–2007
- Member of IEEE, 2005–present

References

Available upon request