Sangtae Kim

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Education

B.S. Computer Science and Engineering, Seoul National University, 1996 – 2000.

M.S. Electrical Eng. and Computer Science, Seoul National University, 2000 – 2002.

Advisor: Dr. Kunsoo Park

Thesis: An Efficient Algorithm to Find All Normalized Local Alignments Above a Threshold.

Ph.D. Computer Science and Engineering, University of California, San Diego, 2006 – Present.

Advisor: Dr. Pavel Pevzner

Research Interests

Computational Mass Spectrometry, Bioinformatics, Computer Algorithms

Research

Working Papers

Sangtae Kim, Nuno Bandeira and Pavel A. Pevzner, Spectral Profiles: A Novel Representation of Tandem Mass Spectra and its Applications for de Novo Peptide Sequencing and Identification, *submitted*.

Publications in Refereed Journals

Sangtae Kim, Nitin Gupta, Nuno Bandeira and Pavel Pevzner, Spectral Dictionaries: Integrating De Novo Peptide Sequencing with Database Search of Tandem Mass Spectra, *Molecular & Cellular Proteomics*, 8, 53-69, Jan. 2009.

Pavel Pevzner, Sangtae Kim and Julio Ng, Comment on "Protein sequences from mastodon and Tyrannosaurus rex revealed by mass spectrometry", *Science*, 321 (5892), 1040, Aug. 2008.

Sangtae Kim, Nitin Gupta and Pavel Pevzner, Spectral Probabilities and Generating Function of Tahdem Mass Spectra: A Strike against Decoy Databases. *Journal of Proteome Research*, 7, 3354-3363, July 2008.

Sangtae Kim, Seungjin Na, Ji Woong Sim, Heejin Park, Jaeho Jeong, Hokeun Kim, Younghwan Seo, Jawon Seo, Kong-Joo Lee and Eunok Paek, MOD^i : a powerful and convenient web server for identifying multiple post-translational peptide modifications from tandem mass spectra, *Nucleic Acids Research*, 34, W258-W263, July 2006.

Conference Presentations

Oral Presentations

Sangtae Kim, Nitin Gupta and Pavel Pevzner, Evaluating Statistical Significance of Peptide Identifications Using the Partition Function of Tandem Mass Spectra, HUPO 6th Annual World Congress, Seoul, Korea, Oct. 2007.

Sangtae Kim, Nuno Bandeira and Pavel Pevzner, A Novel Representation of Tandem Mass Spectra and its Applications for De Novo Peptide Sequencing and Identifications, 5th Annual US HUPO Conference, San Diego, USA, Feb. 2009.

Poster Presentations

ASMS 2007, HUPO 2005, ISMB 2005, HUPO 2004, ISMB 2004, RECOMB 2002.

Academic Experience

Research Assistant, Department of Computer Science and Engineering, University of California, San Diego, Fall 2006 – Present.

Computational Mass Spectrometry, Dr. Pavel Pevzner

Full-time Lecturer, Department of Computer Science, Korea Military Academy, Fall 2002 – Spring 2005.

Introduction to Computer, Programming Language (C), Computer Network

Teaching Assistant, Department of Electrical Engineering and Computer Science, Seoul National University, Fall 2000.

Automata Theory

Employment

Full-time Researcher, Research Center for Computer Technology, Hanyang University, 2005–2006.

Full-time Lecturer and Officer, Korea Military Academy, 2002–2005.

Honors & Awards

Distinguished Graduate Student Scholarship, Chang-Hyun Foundation for Education, 2000–2002.

Merit-Based Scholarship, Seoul National University, 1998, 1999.

Admission Scholarship, Seoul National University, 1996.

Miscellaneous

Computer Skills

Java, C, C++, Perl, Python, Matlab, SQL, LaTeX.

References

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