Guha Jayachandran, Ph.D.

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SUMMARY

Fundamental and applied accomplishments. Experience in academic research, entrepreneurship, and university-level teaching.

EDUCATION

All degrees below from Stanford University.

Ph.D., Computer Science, with Ph.D. Minor in Chemistry 2007
- Dissertation: Parallel Computing Methods for Probing Biomolecular Kinetics and Thermodynamics
- Adviser: Prof. Vijay S. Pande

Mayfield Fellow 2003
- 9-month program in technological entrepreneurship and management

M.S., Computer Science (Specialization: Biocomputation/Bioinformatics) 2003
- >4.0 G.P.A.

B.S., Computer Science 2003
- Graduated "with Distinction."

SELECTED HONORS

National Defense Science and Engineering Graduate Fellow (2003-2006)

Siebel Scholar (2002) – Awarded top computer science and business graduate students in country

Terman Engineering Scholastic Award (2003) – Top engineering students at Stanford

Perfect score on the GRE (2001)

California Byrd Scholar (1999-2003)

Target All Around Scholarship (1999)

National Merit Scholar (1999)

Black belt in Shotokan karate (1998)

SELECTED INVITED TALKS

Statistical Assessment of the Modeling of Proteins and Ligands (SAMPL-1). Presentation. OpenEye CUP IX, Santa Fe, NM. March 2008.

FuturTech 2008. Panelist on "Crowdsourcing: The Wisdom of the Commons?" Ross School of Business at University of Michigan. January 2008.

IIT Madras Biotechnology Dept. Seminar. "Examining Protein Folding and Binding with the Most Powerful Distributed Computing Network in the World." November 2007.

San Francisco Bay Area ACM. "Folding@Home: Probing Biomolecular Phenomena with Massively Parallel Computation." June 2007.

BCATS 2004, "Folding Simulations of the Villin Headpiece in Explicit Solvent." October 2004. ***(Awarded "Best Talk" prize.)***

TEACHING EXPERIENCE

Instructor (CA), Computational Drug Discovery (Winter 2006)

Teaching Assistant, Computational Models of the Neocortex (Autumn 2006)

Teaching Assistant, Algorithms for Structure and Motion in Biology (Spring 2004)

Section Leader, Introductory Computer Science (Winter 2001)

RESEARCH AND PROFESSIONAL EXPERIENCE

Co-founder and president, Cruxlux LLC — 2007-present

Postdoctoral Scholar, Chemistry Department, Stanford University — 2007-2008

Graduate student (M.S. and Ph.D.), Computer Science Dept., Stanford University – 2002-2007

Consultant, CT Marketing, R2 Technology — 2003-2004

Intern, Trilogy Software — Summer 2001

SHARP Intern, NASA Ames Research Center – Summers 1998-1999

SELECTED SERVICE

Assistant karate instructor – 1997-1999

Volunteer, El Camino Hospital and Arbor Free Clinic – 1998-2000

Stanford President's Investment Responsibility Advisory Board – 2003-2004

Planning meeting, The Energy-Free Home Challenge ($50M "green" homes contest) – 2008

Informal adviser to the nation of Bhutan's first private college (opening 2009) – present

PUBLICATIONS

Guha Jayachandran, Vince Voelz, Vijay S. Pande. "A Bayesian approach to relative free energy calculations." In preparation (to be J. Chem. Phys. 2009).

Guha Jayachandran. *Computational Drug Discovery*. Course reader available free online.

Edgar Luttmann, Daniel L. Ensign, V. Vishal, Mike Houston, Noam Rimon, Jeppe Øland, Guha Jayachandran, Mark Friedrichs, Vijay S. Pande. "Accelerating Molecular Dynamic Simulation on the Cell processor and PlayStation 3." J. Comp. Chem. 2008.

Guha Jayachandran, V. Vishal, Angel E. García, Vijay S. Pande. "Local structure formation in simulations of two small proteins." J. Struct. Bio. 2007.

Guha Jayachandran, Michael R. Shirts, Sanghyun Park, Vijay S. Pande. "Parallelized Over Parts Computation of Absolute Binding Free Energy with Docking and Molecular Dynamics." J. Chem. Phys. 2006.

Guha Jayachandran, V. Vishal, Vijay S. Pande. "Using massively parallel simulation and Markov models to study protein folding: Examining the dynamics of the villin headpiece." J. Chem. Phys. 2006.

Bojan Zagrovic, Guha Jayachandran, Ian S. Millett, Sebastian Doniach, Vijay S. Pande. "How large is alpha-helix in solution? Studies of the radii of gyration of helical peptides by SAXS and MD." J. Mol. Bio. 2006.

Hideaki Fujutani, Yoshiaki Tanida, Masakatsu Ito, Guha Jayachandran, Christopher D. Snow, Michael R. Shirts, Eric J. Sorin, Vijay S. Pande. "Direct calculation of the binding free energies

of FKBP ligands using the Fujitsu BioServer massively parallel computer." J. Chem. Phys. 2005.

Young Min Rhee, Eric J. Sorin, Guha Jayachandran, Erik Lindahl, Vijay S. Pande. "Simulations of the role of water in the protein-folding mechanism." PNAS 2004.

Eric J. Sorin, Bradley J. Nakatani, Young Min Rhee, Guha Jayachandran, V Vishal, Vijay S Pande. "Does Native State Topology Determine the RNA Folding Mechanism?" J. Mol. Bio. 2004.