

Anthony K. Yan

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EDUCATION

- 8/99-present **Dartmouth College**, Department of Computer Science.
Ph.D. Program. Research area: Computational Structural Biology. Advisors: Prof. Bruce R. Donald (Duke University) and Prof. Chris Bailey-Kellogg (Dartmouth College).
- 8/97-5/98 **Cornell University**, Department of Computer Science.
M. Eng. GPA: 3.91
- 8/93-5/96 **University of California at Berkeley**, Department of Physics.
Ph.D. track. Passed Qualifiers. (Later switched fields to computer science at Cornell University.)
One year scholarship Dept. of Ed.: 8/93 - 7/94
- 8/89-5/93 **Cornell University**, College of Arts and Sciences.
B.S. Physics - Magna Cum Laude - Distinction in all Subjects - Four Times on Dean's List
GPA 3.52 GRE: Physics 870, General Analytical 760

EXPERIENCE

- 7/99-present **Graduate Research Assistant**, Dartmouth College. Research in computational biology, specifically the analysis of Nuclear Magnetic Resonance (NMR) data from bio-molecules in solution. Developed and evaluated algorithms to analyze NMR data for assignment and structure determination. Also developed algorithms for protein expression analysis using gene-array chips.
- 7/98-7/99 **Software Engineer**, Parametric Technology Corporation (PTC). Manufacturing Utilities Group. Programmed and debugged algorithms for mechanical CAD. Worked on projects related to robotic machining (numerical control). Evaluated robustness of computational geometry algorithms.
- 6/95-12/95 **Graduate Research Assistant**, U.C.-Berkeley, Experimental Search for Josephson Junction Effect in Helium-III. Prototyping, apparatus design, fault tolerance, and experimental methodologies.
- 6/91-12/92 **Undergraduate Research Assistant**, Cornell University, Silicon Vertex Detector Project. Coded program to analyze high-energy particle interaction data generated from a Monte Carlo simulation of Silicon Vertex Detectors. Performed frequency response experiments on actual prototype detectors; analyzed data using theoretical models.
- 6/89-8/89 **Assistant Programmer**, Cornell University, Dept. of Mathematics. Worked in a team to write a 2D graphing program, and a program to numerically solve and graph differential equations.
- 8/93-6/95 **Graduate Student Instructor**, U.C.-Berkeley, Department of Physics. Taught discussion and laboratory sections for freshman mechanics and introductory modern physics.
1/96-6/96

PUBLICATIONS

- Structure Determination
- *Structure Determination of Symmetric Homo-oligomers by a Complete Search of Symmetry Configuration Space Using NMR Restraints and van der Waals Packing*. S. Potluri, A. Yan, J. Chou, B. R. Donald, and C. Bailey-Kellogg. *Proteins* (2006) 65(1):203-219.
 - A Complete Algorithm to Resolve Ambiguity for Inter-subunit NOE Assignment in Structure Determination of Symmetric Homo-oligomers. S. Potluri, A. Yan, B. R. Donald, and C. Bailey-Kellogg. *Protein Science* 2006; In press.
- NMR Assignment
- *A Probability-Based Similarity Measure for Saupe Alignment Tensors with Applications to Residual Dipolar Couplings in NMR Structural Biology*. A. Yan and C. Langmead and B. R. Donald. *The International Journal of Robotics Research* Special Issue on Robotics Techniques Applied to Computational Biology, 2005; (29)(2-3):165-182.
 - *A Polynomial-Time Nuclear Vector Replacement Algorithm for Automated NMR Resonance Assignments*. C. Langmead, A. Yan, R. Lilien, and L. Wang and B. R. Donald. *Journal of Computational Biology* 2004; 11(2-3):277--298.
(also appears as)
A Polynomial-Time Nuclear Vector Replacement Algorithm for Automated NMR Resonance Assignments. C. Langmead, A. Yan, R. Lilien, and L. Wang and B. R. Donald. *Proc. The Seventh Annual International Conference on Research in Computational Molecular Biology (RECOMB)*, Berlin (2003) pp. 176-187.
- Gene Expression
- *Phase-Independent Rhythmic Analysis of Genome-Wide Expression Patterns*. C. Langmead, A. Yan, C. R. McClung, B. R. Donald. *Journal of Computational Biology* 10(3-4) 2003, pp. 521-536.