

William F. Punch III

School: Department of Computer Science
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(i) Professional Preparation

- The Ohio State University Columbus, OH. Ph.D. in Computer Science, major: Artificial Intelligence, minors: Computer Graphics and Cognitive Science, March 1989.
- The Ohio State University Columbus, OH. M.S. in Computer Science, June 1984. B.S. in Biochemistry, June 1979.

(ii) Academic and Professional Appointments

- 2002-present. Associate Chairperson, Computer Science Dept., MSU
- 1995-1999. Computing Facilities Director in Computer Science Dept. of MSU. In charge of 200+ machines, network and all services.
- 1995-present, Michigan State University E. Lansing, MI, Associate Professor in the Computer Science Department.
- 1989-1995, Michigan State University E. Lansing, MI, Assistant Professor in the Computer Science Department.
- 1985-1989, Ohio State University Columbus, OH Graduate Research Assistant.

(iii) Publications

Five most related to proposed project

- Raymer, M.L, T.E. Doom, L.A. Kuhn and W.F. Punch, "Knowledge Discovery in Medical and Biological Datasets Using a Hybrid Bayes Classifier/Evolutionary Algorithm" *IEEE SMC*, in press
- Guinand, B., A. Topchy, K.S. Page, M.K. Burnham-Curtis, W.F. Punch. and K.T. Scribner. 2002. "Comparisons of likelihood and machine learning methods of individual classification". *Journal of Heredity*, Vol 93: 260-269.
- Guinand, B., K.T. Scribner, A. Topchy, K.S. page, W. Punch, and M.K. Burnham-Curtis. 2003. "Sampling issues affecting accuracy of likelihood-based classification using genetic data". *Environmental Biology of Fishes*. In Press.
- M.L. Raymer, W.F. Punch, E.D. Goodman, L.A. Kuhn and A.K. Jain, "Dimensionality Reduction Using Genetic Algorithms", *IEEE Trans. EC*, Vol. 4, No. 2, pg 164-171, July 2000

Five other significant publications

- Patent 5924105, W.F. Punch, M. Wulfekuhler and E.D. Goodman, "Method and Product for determining salient features in text", 7/13/99
- D. Eby, R. Averill, W. Punch and E. Goodman, "Optimal design of flywheels using an Injection Island Genetic Algorithm", *Artificial Intelligence in Engineering, Design and Manufacturing* (AIEDAM), Vol. 13, No. 4, November 1999, pg. 289-402.
- W.F. Punch, R.C. Averill, E.D. Goodman, S-C Lin and Y. Ding, "Design Using Genetic Algorithms--Some Results for Composite Material Structures", *IEEE Expert*, vol 10 (1), pg 42-49, February 95.
- David Eby, R. C. Averill, William F. Punch III, Erik D. Goodman "Evaluation of Injection Island GA Performance on Flywheel Design Optimization", January 15, 1998, Proceedings, Third Conference on Adaptive Computing in Design and Manufacturing, Plymouth, England, April, 1998, Springer Verlag.
- M. L. Raymer, W. F. Punch III, S. Venkataraman, P.C. Sanschagrin, E. D. Goodman, and L. A. Kuhn (1996) "Predicting Conserved Water-Mediated and Polar Ligand Interactions in Proteins Using a K-nearest-neighbor Genetic Algorithm", *J. Mol. Biol.*, Vol 265(4), pg 445-464, Jan 97.

(iv) Synergistic Activities (up to five examples demonstrating broader impacts)

- founding member, Michigan State Center for Biological Modeling
- co director, Michigan State Genetic Algorithms Research and Application Group (GARAGe)
- Editorial Board, "Genetic Programming and Evolvable Machines", Kluwer Academic Publishers (1999-present)
- E. Cantu-Paz and W. Punch, GECCO 99 Workshop, "Evolutionary Computation and Parallel Processing", July 99.
- Program Committee, AAI-99 & GECCO-99 Workshop on Data Mining with Evolutionary Algorithms, July 99

(v) Collaborators and Other Affiliations

a) Thesis Advisees

David Decker (graduated Spring95), Marilyn Wulfekuhler (graduated Fall98), Michael Raymer, (graduated Fall 2000), Arnold Patton, Alexander Topchy, Behrouz Minaei-Bidgoli
TOTAL: 6

b) Thesis Advisor

B. Chandrasekaran, The Ohio State University