

# NELSON R. MANOHAR-ALERS, PH.D.

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## OBJECTIVE

Seeking a R&D programmer/engineer/scientist position to contribute to both group's success and career growth. Preference towards mathematical, bioinformatics, software engineering, life/earth sciences, telecom, and/or financial software applications.

## SELECTED EXPERIENCE

### UNIVERSITY OF MICHIGAN – ANN ARBOR (AUGUST 2008 – AUGUST 2009)

#### RESEARCH FELLOW, *School of Information*

Data mining, data exploration, data analysis, time series analysis, and social network analysis of message board variables against historical indicators. **Platforms used:** Python, SQL, R, Perl, shell scripting, and basic graph tools on Windows and Linux platforms over average size dataset (i.e., millions of message posts, gigabytes of data).

### WWW3.WEBNG.COM/NELSONMANOHAR/NRM\_RESEARCH.HTM (AUGUST 2005 – AUGUST 2008)

#### Inventor, *Self-funded*

Developed sequence alignment, phylogenetics analysis, and motif mining approach for near and distant DNA homologues through rudimentary pattern recognition of stationary segments within time series derived from transformed DNA sequences. Software system developed to produce richly annotated analyses for sequence alignment, homology, and phylogenetics results. **Platforms used:** LISP, gnuplot, MS Excel, and HTML/CSS on Windows.

### IBM THOMAS J. WATSON RESEARCH CENTER (MAY 1997 – DECEMBER 2001)

#### RESEARCH STAFF MEMBER, *Multimedia Networking Department*

Developed specification of policy-based framework for adaptive management of media resources and capacities. Developed algorithm for estimation of statistical performance envelopes of noisy time series regardless of timescale; applied to network bandwidth problem.

## SELECTED EDUCATION

### UNIVERSITY OF MICHIGAN, ANN ARBOR, MICHIGAN, USA (JANUARY 1991 – MAY 1997)

- PH.D. IN COMPUTER SCIENCE AND ENGINEERING (MAY 1997)
- M.S.E. IN INDUSTRIAL AND OPERATIONS ENGINEERING (DECEMBER 1992)

### UNIVERSITY OF WISCONSIN AT MADISON, WISCONSIN, USA (SEPTEMBER 1987 – AUGUST 1988)

- M.S. IN COMPUTER ENGINEERING (AUGUST 1988)

## SELECTED PUBLICATIONS

“ON STOCKS AND FINANCIAL SENTIMENT IN MESSAGE BOARDS”, Pending Sub.; University of Michigan, School of Information; 08/2009.

“APPROXIMATE PATTERN MATCH IN COMPRESSED DOMAIN” by Nelson Roberto Manohar-Alers, United States Provisional Patent Application, Application Num: 61,637/06, Filed: 2008-02-21.

“APPLYING STATISTICAL PROCESS CONTROL TO THE ADAPTIVE RATE CONTROL PROBLEM”, Manohar, Nelson R.; Willebeek-Lemair, Marc H.; Prakash, Atul; Proc. SPIE--The International Society for Optical Engineering, Vol. 3310, p. 42-56, Multimedia Computing and Networking 1998, Kevin Jeffay; Dilip D. Kandlur; Timothy Roscoe; Eds., 12/1997.

## SELECTED PATENTS

“SYSTEM AND METHOD FOR INTEGRATED LOAD DISTRIBUTION AND RESOURCE MANAGEMENT ON INTERNET ENVIRONMENT”, by Leon L. Lumelsky and Nelson R. Manohar, US Patent 6,463,454, Filed on 1999-06-17, Granted on 2002-10-08, Assignee: IBM Corp..

“DYNAMIC CUSTOMIZED WEB TOURS” by Philip Shi-lung Yu, Marc Hubert Willebeek-LeMair, and Nelson R. Manohar, US Patent 6,572,662, Filed on 1998-05-15, Granted on 2003-06-03, Assignee: IBM Corp.

## SELECTED EXPOSURE

**SYSTEMS:** UNIX/Linux, NextStep/MachOS, XP/cygwin, X11/Motif; **SCRIPTING:** Python, bash, DOS; **LIBRARIES:** multithreading, timing, I/O, audio, window system, sockets, sqlite, etc. **PARADIGMS:** client-server, overlay network, message passing, process groups, distributed objects, RPCs, callbacks, rules/constraint (e.g., OPS5); **DATABASES:** SQL, ER, 3NF, triggers, reports, partitioning. **TESTING:** Unix, GNU debugger, C debugging toolset (ctrace, scope, cflow, lint, gdb, rcs/cvs, etc.), telephony, call processing, and trunk/line signaling.

## SELECTED DEVELOPMENT

**EXPERIENCED (1986-2009):** PYTHON, OBJECTIVE C, COMMON LISP, C – several 10K of lines of code on each.

**USED:** R, PERL, SHELL (scripting), FORTRAN, and PASCAL – Occasional user as per requirement needs.

**EXPOSURE:** JAVASCRIPT, AJAX, PHP –basic *self*-tutorial exercises. Attended five day IBM tutorials on JAVA and C++. Adept at learning.

## SELECTED AWARDS

INTELLIGENCE COMMUNITY (IC) POSTDOCTORAL RESEARCH FELLOWSHIP (2008), U.S. Department of Defense, Univ. of Michigan.

SECOND INVENTION PLATEAU (2001), IBM Corporation, IBM T. J. Watson Research Center.

## LANGUAGES

Fluent on both SPANISH and ENGLISH. Some basic reading comprehension of FRENCH.

## CITIZENSHIP

U.S. CITIZEN