Michael Bobak   *http://mike.bobak.googlepages.com/* *http://chicagolisp.googlepages.com* **Seeking creative computational problem-solving post as**

either a **: Knowledge-Engineer, Scientific/Research-Programmer** /Systems-Analyst/Architect, Scientist, Multi-disciplined Research/ **Software-Engineer.**

Furthering knowledge/experience with Artificial Intelligence/Modeling &Simulation techniques; through stimulating peer interaction, challenging projects.

Particular interest in a Knowledge-Based-Modeling &Simulation Environment, Assisted Problem-Solving-Environment s.

Knowledge-(Representation/Reasoning/Mngt) for cooperative Scientific modeling[e-Science, Semantic(Web/Grid)Services] via multi-use Model-Based-Reasoning/descriptive(layer of logic) to use preconstructed applications&data. Prefer dynamic(event-driven)language/environments. Having a Lisp(like)language, use of AI techniques& a science-based domain, would do it for me.

Educational Background M.S. Biophysics & Computational Biology, (with focus in AI) [B.S. Physics and B.S. Biophysics]

University of Illinois, Urbana-Champaign , May 1988 dept-distinction, October 1993 Thesis: *Molecular Simulation with Expert Rules* (in OPS5/Lisp/C)

Programming Skills [19+ years]   *Object Orientated Languages:* [14+ years]   Libs: Viz/HPC/Web-Services/Database/Operating-Systems:

C (6+ years)	C++ (1+ years)	SGI's Graphics Language (*Open*GL) (3+ years)
FORTRAN (6+ years)	Smalltalk (~1 year)	PVM [Parallel-Virtual-Machine]
Lisp (3+yrs of CL 10+yrs of others)	Python(< 1year), Java (1+ year)	Tomcat/Axis SOAP, jsp; Semantics via Protege-OWL/SWRL/Jess
Scheme (~1 yr)	CLOS [Common-Lisp-Object-System]	MS-Jet/SQL, MySQL, PostgreSQL, ORDB-link &persistent-store
CLIPS [C Language Integrated Production System] 4+ yrs &it's COOL [CLIPS Object Orientated Language]		UNIX (18+ years), incl. Linux, OS-X.Darwin (6+ years),
[CLIPS is based upon ART] ART-Enterprise (originally by Inference Corp.) (4+ years) [both~have CLOS]		NeXTSTEP, MS(NT/Win2k/XP) (6+ years)

MUMPS (1/2 year), and various others.   *Rule-Based Programming Languages:* [10+ years]

OPS5 [Official Production System 5], JESS (1 yr), Prolog, GoldWorks(< 1 yr),   CLIPS, Art*Enterprise 4+years

College Course work related to: Artificial Intelligence (AI):   &bio-science   College Extracurricular Experience:

Pattern Recognition & Machine Learning	Programming Language Principles www.life.uiuc.edu/biophysics/courses.html	*Physics Society* officer, (vp/etc) 3 years.
Special Topics in Neural Networks	*Mathematical Modeling & Visualization ? 401 417 420 432 470 550 586 ?*	*Community Radio Station show, 2 years*
Introduction to Artificial Intelligence	*Building Problem Solvers*	*also Bio major's intro year*	*Other groups and volunteering.*
Mechanized Mathematical Inference *-(1/2 of)*	*Human Computer Interaction* (HCI)	&BioChem350 Bio-P-Chem	

Computer Inference & Knowledge Acquisition http://mike.bobak.googlepages.com/classes

Professional Organizations:

Computer Models of Cognitive Processes *AI-2* http://aima.cs.berkeley.edu/   AAAI (Association for the Advancement of Artificial Intelligence)

Design of Computer Problem Solvers *Numerical Analysis*   IEEE (Institute of Electrical and Electronics Engineers) & Computer Society

Experience Summary: Modeling&Simulation and AI work has helped my design and algorithmic skills.   Growing up around UIUC, using networked computers (*PLATO*) since early grade-school, early tech-groups (sci/eng/CS), then work in & around super-computing, has set my standards for what is a good/ interesting system, quite high. I get something out of all of my work, yet think I can do more. So I continue to look for places that I can enact   *(at least parts of)* my vision. I prefer scientific applications, but the ability to push the norm with innovative applications wins out in any domain. If your IT dept. already has the skills for what you want done, I probably shouldn't work for you. I should be helping you with a multi-disciplined problem, by leveraging my varied background. [I am a uniting force as both a knowledge worker&kn-engineer.] [If it isn't clear, I don't just write code. If you just want code written and no problem solved along the way; then I can only do that short-term.] Some Reference related links can be found under my name on http://linkedin.com   The rest I will put below, so they can be found more in their original context:

Work Experience: update: apollogroup.edu, see my http://www.linkedin.com/in/michaelboba &UCSF.edu see:

Ida Sim	General Internal Medicine	sim@medicine.ucsf.edu	514-8657 0320

Knowledge Engineer Freelance: Mindbox/etc   Chicago, IL   *2/2001-...*

Rule-based, Case-based, Machine-learning/Data-Mining, &most any Lisp work. Long-term computational-science (bio/chem/physics/bioinformatics), sim/AI background.

Applied to a wide variety of problems. Will do the 'smarts' behind web selling, teaching, & many other applications. Research(science/AI/etc)programming, simulation, visualization,... Can take advanced/novel projects from idea to prototype to deployment. Part-time projects are just

fine/preferred for maint. Contact me for estimates & reasonably priced prototypes. Available for term/pt. work.

Worked through http://www.mindbox.com 3/02-10/02. [used Art*Enterprise] See: "http://softdist.mindbox.com/pressreleases/Ocwen Mind Box.doc" 877-650-MIND
Worked upto ½ time for http://cas.dis.anl.gov 5/03-5/04 [used Java Simulation] Mike   North@anl.gov ; Roland.Zito-Wolf @verizon.com (gte-labs) 781-466-4248
Worked full-time 8/03-~05 labs.gte.com, Model-Based-Diagnosis on a national scale. [Used Art *Enterprise] See: http://mike.bobak.googlepages.com/IAAI96-SSCFI.pdf
Bioinformatics/control contract 11/04-12/05 [Used CLIPS&Protege.stanford.edu/Java/DB] Control of perfusion pumps on light microscope sample, monitoring incl.
Machine-vision, Bio-ontology/reasoning/Kn-mngt for the experiment setup. & Grant proposal work.   www.vsominc.com Larry Callahan 314-236-2249
Worked for CME.com 2/06-06/06 (re)organizing trade-data validation code. [using CLIPS/Jess] Simon Allaway 312-907-5085
Signal-Processing/Machine-Learning (startup) 06/06-[Lisp/etc] Protege&Lisp romain@tadaaa.net
Hospital Informatics/Machine-Learning ghx.com 02/07-05/07-[Lisp] Raymond de Lacaze delaray@hotmail.com

(*Senior*) *Research Programmer* (Knowledge Based Systems Lab)   University of Illinois Urbana-Champaign, IL   6/1998-2/2001
Organize many levels of a very large knowledge based simulation projects. Brought over 18 programmers together to deliver a coherent product. Ran weekly (sub)group meetings, down to help solving any problem. Hiring, demo/design/install trips, prototyping to lead project direction. Taught group of 6 how to use a Rule-Based-shell for a reasoner-rewrite in Art*Enterprise. Projects included: Simulation-based, Intelligent Tutoring System (ITS) & Real-Time control system. Being used in classroom, real life testing, presented at IAAI99   *'Automated Instructor Assistant for Ship Damage Control'* The system teaches Navy officers how to save a simulated ship in crisis. A variant was developed to catch real crisis conditions and suggest solutions, in real-time. Dr. David Wilkins dcw@uiuc.edu

Knowledge Engineer Brightware   *Novato, CA*   *10/1996-6/1998*
Helped develop and install their very first product (Intelligent email reply). Worked between development and consulting. Helped on several Knowledge-Based business applications. Helped with several deployed Knowledge-Based business applications (ie. financial: mortgage, web based job finder). All with Art*Enterprise. See: http://www.brightware.com/eservice_solutions/ More recently I worked 1/2year for the new version of the company: Mindbox.   gstevenelias@yahoo.com 610-496-5355

Lead Programmer/Analyst Institute of Learning Sciences   *Evanston, IL*   *2/1996-8/1996*
Wrote Lisp code (mainly GUI) for Qualitative Research Group. Learned more about Qualitative/Quantitative Simulation, Model-Based Reasoning, Intelligent-Tutoring-Systems, & general Lisp programming. See: http://www.qrg.northwestern.edu/projects/NSF/Cyclepad/aboutcp.htm Ken Forbus

Software Engineer (EAD then DIS groups) Argonne National Lab Argonne, IL   2/1993-2/1996
Wrote fielded Expert System by myself at the end of grad-school. [in Lisp rule-shell then CLIPS] Prototyped communication & control of distributed simulation. [in CLIPS PVM etc] Agent wrapping of simulations with CLIPS+PVM, to describe then mix and match them. Also used C++/Smalltalk/FORTRAN with PVM; Other work as needed. Algo/Viz/Etc. Written up in a book about innovative distributed object application. See: http://www.dis.anl.gov/DEEM http://www.dis.anl.gov/DEEM/DIAS
http://mike.bobak.googlepages.com/bobak/diaswp.pdf _More recently I worked part-time for the new subgroup of dis: cas.dis.anl.gov.   dan@detech.net simunich@anl.gov

Graduate Research Assistant / *Research Programmer* University of Illinois   Urbana-Champaign, IL   1/1990-1/1993
Wrote molecular graphics package used in classes & for publications. [in C] Used machine-learning techniques for protein structure prediction.
Wrote thesis on Knowledge-Based Simulation Environment. [Lisp/OPS5/C] Overseen by heads of the NCSA CompBio group and head of Biophysics at the time. see:
http://web.bilkent.edu.tr/ncsa/Apps/CBdir.html   jake@ncsa.uiuc.edu   shankar@SDSC.EDU

Programmer/Consultant [National Center for Supercomputing Applications] NCSA,Uof IL,GIST   Urbana-Champaign, IL   4/1989-12/1989
Suggested scientific software path for *Software Tools Group* of NCSA; Wrote molecular viz code for a professor. Wrote testing code for Global Info Systems Tech. [in C]

Programmer (Research Computing) Shearson Lehman Hutton   London, England   10/1988-4/1989
Maintained financial databases & daily report information. Organized worldwide mailing system. Wrote statistics code for stock predictions.   [MUMPS and Maths-package]

Research Programmer (Modeling then Acoustics teams) Construction Engineering Research Lab Urbana-Champaign, IL   3/1982-8/1988
Provided research support from start to finish. Wrote and ran computer simulation code, compared output with field data. [FORTRAN] Did field measurements to back up predictions. (Team/Self; Local/US/World-wide) My work went into several published papers. See: http://adsabs.harvard.edu/cgi-bin/nph-bib_query?1987ASAJ...81..638J   &
1987nce..conf..215R http://www.cecer.army.mil/td/tips/pub/details.cfm?PUBID=1452&TOP=1   Early work went into GRASS: http://grass.itc.it/intro/general.php
 raspet@olemiss.edu