

Ronald Prescott Loui  
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### **Education**

*Harvard.* B.A. *m.c.l.* 1982. Applied Mathematics: Decision and Control (optimization). (3 years)

*University of Rochester.* M.S. 1985. Computer Science. Ph.D. 1987. Computer Science and Philosophy. Cognitive Science. (5 years)

### **Academic Posts**

*Stanford.* Postdoctoral Affiliate, Cognitive Science. 1987-1988. (1 year)

*Washington University in St. Louis.* Associate Professor of Computer Science and Engineering in the School of Engineering. 1988-present, tenured in 1994. Affiliated with research centers (AI, Computational Intelligence, Semantic Control, and Semantic Network Hardware) and academic programs (Legal Studies/History, Linguistics, and Philosophy). (19 years)

**Research Areas** Publishes mainly in artificial intelligence (reasoning, representation, decision, applied data mining, AI and law), but has broad interests including e-government; scripting language design and performance; web 2.0 and webserver performance; search engines, webcrawlers, and databases; software engineering metrics, software engineering and cognition; heuristics for re-programmable hardware; knowledge mining and discovery, machine learning, optimization, risk analysis; multiagent systems and negotiation, semantic web, ecommerce; philosophy of computing, philosophy of economics, philosophy of law, philosophy of science; philosophy of AI, intellectual history, and history of technology.

Latest funded project was for high speed datamining of data streams and hardware-based machine translation of foreign languages, real-time classification of images and documents, and hardware-assisted automatic discovery. That work supported intelligence agency research, development, and operations.

**Research Supervision** Has supervised dozens of undergraduate independent study research projects, dozens of high school summer research projects, and dozens of visiting summer undergraduate students. Has supervised hundreds of exploratory software projects in design courses at the graduate and undergraduate level. Three doctoral students, three postdoctoral visitors, and three Master's/Bachelor's theses.

### **Research Funding**

*Applied Research.* Grants of \$563k, and \$859k as co-PI (\$1.4M) for work on

software-hardware co-design for OC-48 and OC-192 document clustering and classification in multiple languages, sponsored by Global Velocity and SAIC. 2004-2006.

*Fundamental Research.* Grants of \$199k, \$120k, and \$109k as PI and co-PI (\$428k) for work on models of negotiation and argumentation, sponsored by NSF. 1990-1992, 1995-1997, 1997-2001.

*Research Education.* Grants of \$84k, \$110k, \$35k, and \$35k as PI and co-PI for summer research experiences for undergraduates (REU), sponsored by NSF, and \$4k and \$3k supplements. 1990-1991, 1991, 1991-1992, 1992-1994, 1995-1996, 1997. Hardware donations of approximate \$5k value from alumni. (\$276k)

*Research Symposia.* Support of \$10k, \$3k, \$3k and \$2k (\$18k) from various sources for funding of academic symposia.

### **Industry Consulting and Internships**

Global Velocity St. Louis: streaming AI on network fpga's, 2001-06.  
Streamsearch.com St. Louis: webserver log analysis and usability, 2000.  
Southwestern Bell/TRI St. Louis: call center expert systems, 1990-92.  
McDonnell-Douglas St. Louis: real-time path replanning, 1989.  
Xerox PARC and Webster: device diagnostics and prediction, 1988.  
Rockwell Palo Alto: evidential reasoning, 1988.  
DEC Hudson: internet topology simulation and optimization, 1982.

### **Patent**

J. Lockwood, M. Pachos, J. Moscola, and R. Loui. *Methods, Systems, and Devices Using Reprogrammable Hardware for High-Speed Processing of Streaming Data to Find a Redefinable Pattern and Respond Thereto.* U.S. 7093023, 2006.

### **Publications and Professional Service**

Approximately 80 papers appeared in conferences, journals, or books. Students under supervision produced another 20 papers as independent authors.

Served as a referee for 24 journals, 20 program committees, five funding agencies, four NSF panels, and five minor editorial boards.

Organized two conferences and three workshops.

### **Courses Taught**

CS100 Computing Tools.  
CS141 Web Services and Web Enterprise (experimental course).  
CS104/160 Web Development (new course developed).  
CS201/301 Formal Foundations of CS.  
CS300 Art and Science of CS (experimental course).  
CS313 AI Laboratory (new course developed).  
CS363 Server-Side and CGI Scripting (new course developed).

CS436/456 Software Engineering/Software Project Management.  
CS547/507 Formal Languages and Automata.  
CS511 Artificial Intelligence I.  
CS512 Artificial Intelligence II.  
CS513 Knowledge Engineering.  
CS513A AI (Entrepreneurial) Programming Project.  
CS540 Formal Foundations of CS (course redeveloped).  
CS580 Topics in Knowledge Representation (experimental course).  
CS6742 Research Seminar in AI.

**University, Engineering School, and Department Service**

University Library Redesign Committee (92-93).  
University Chancellor's Management Team Research Speaker (01).  
University Bookstore Advisory Committee (02-04).  
University Board of Trustees Undergraduate Committee (02-04).  
University Residential College Faculty Associate (04).  
University Information Technology in Medical Education Committee (04).  
University Olin Women's Graduate Fellowship Panelist (06).  
Engineering Library Proposing Committee (89-90).  
Engineering 2001 Report (90-91).  
Engineering Faculty Assembly Speaker (01-02).  
Engineering Tenure Committees (both successful).  
Department Graduate Admissions (88-89-90-91, 99-00-01, twice chaired).  
Department Library Liaison (90-91-92-93).  
Department Summer Research (90-00 chair).  
Department Webmaster Services (96-01 chair).  
Department Doctoral Committee (98-99 chair).  
Department Technology Adoption Committee (99-00-01).  
Department Graduate Recruiting (00-01 chair).  
Department Publications Board (00-07 chair).

**Technical Skills** R. Loui is an expert user of the UNIX system and its associated tools, especially awk/gawk and C. He has spent over five thousand hours using image manipulation tools such as Photoshop and ten thousand hours manipulating dynamic web sites in DHTML, CSS, javascript, and cgi programming. Some systems administration and familiarity with many scripting languages such as php, perl, tcl, and others, including MATLAB. Formerly an early BASIC, FORTRAN, and LISP programmer. Experience with simulations, rapid prototyping, service innovation, workflow paradigm-shifts, and software project management functions.

**Personal** Born 12/26/61 in Honolulu, Hawaii. Graduate of Punahou School.