JENNIFER REXFORD
jrex@research.att.com

Work Address
AT&T Labs Research
2D-113 600 Mountain Avenue
Murray Hill, NJ 07974
(908) 582-7563

Home Address
Apartment 18
26 Locust Drive
Summit, NJ 07901
(908) 598-0663

Resume and publications available at
http://www.eecs.umich.edu/~jrexford
ftp://rtcl.eecs.umich.edu/outgoing/jrexford

Research interests

Packet scheduling; routing protocols; switch architectures; network performance evaluation

Education

University of Michigan, Computer Science & Engineering, 1991–96 — Ann Arbor, MI
MSE 1993, PhD Summer 1996 (GPA: 8.4/8.0, 9=A+, 8=A, ...)
Thesis: Tailoring router architectures to performance requirements in cut-through networks
Advisor: Professor Kang G. Shin (kgshin@eecs.umich.edu)

Princeton University, Electrical Engineering, 1987–91 — Princeton, NJ
BSE 1991, with highest honors (GPA: 4.0/4.0)
Advisor: Professor Niraj Jha (jha@ee.princeton.edu)

Academic recognition and honors

Intel Foundation graduate fellowship (1995–1996)
Distinguished Achievement Commendation for U. Michigan CSE graduate student (1995)
Rackham graduate fellowship for U. Michigan graduate students (1994–1995)
Co-author of publication chosen as "best paper" in *Proc. Performance* (1993)
Office of Naval Research graduate fellowship (1991–1994)
National Science Foundation graduate fellowship, awarded (1991)
AT&T Graduate Research Program for Women grant (1991–1996)
Pyne Honor Prize for Princeton University senior (1991)
James Hayes-Edgar Palmer Prize in Engineering graduation award (1991)
Computer Engineering Excellence graduation award (1991)
Tau Beta Pi, Sigma Xi, and Phi Beta Kappa

Work experience

AT&T Research, Networking & Distributed Systems, aug 1991– — Murray Hill, NJ
Research on packet scheduling architectures, routing protocols, and network performance evaluation in the Network Mathematics Research department.

AT&T Bell Laboratories, Network Services Research Lab., june & oct 1995
AT&T Bell Laboratories, Mathematics Center, summer 1994 — Murray Hill, NJ
Design and evaluation of efficient hardware architectures for traffic shaping and link scheduling in high-speed ATM (asynchronous transfer mode) networks.

AT&T Bell Laboratories, Mathematics Center, summer 1991 — Murray Hill, NJ
Development of parallel algorithms for evaluating circuit-switched networks, with implementation on the MasPar MP-1.

PRINCETON UNIVERSITY, ELECTRICAL ENGINEERING DEPT., FALL 1990 — Princeton, NJ
Teaching assistant for "Computer Structure" (EE317).

AT&T BELL LABORATORIES, MATHEMATICS CENTER, SUMMER 1990 — Murray Hill, NJ
Creation of a quadruple precision floating-point library in C++.

NAVAL RESEARCH LABORATORY, PLASMA PHYSICS LAB., SUMMER 1989 — Washington, D.C.
Design of FORTRAN computer simulations for the VAX and Cray XMP.

Collaborative research projects

LINK-SCHEDULING ARCHITECTURES
Design of efficient link-scheduling architectures to support time-constrained communication in multicomputer routers and high-speed network switches.

POINT-TO-POINT MESSAGE SIMULATOR (PP-MESS-SIM)
Development of an object-oriented simulation environment for evaluating multicomputer router architectures under a variety of routing algorithms, switching schemes, network topologies, application workloads, and performance metrics.

PROGRAMMABLE ROUTING CONTROLLER (PRC)
Design and implementation of a programmable router chip for flexible communication in point-to-point networks.

WINDOW-CONSISTENT PRIMARY-BACKUP SERVICE
Design and prototype implementation of a primary-backup protocol for maintaining fault-tolerant data repositories for real-time control applications.

Additional experiences

REPRESENTATIVE ON DEPARTMENTAL COMMITTEES, 1995-96 — University of Michigan
Officer in the computer science and engineering graduate student organization (CSEG), serving as the student representative on the faculty committee and the graduate committee.

MENTOR FOR UNDERGRADUATE PROJECTS, SUMMER/FALL 1995 — University of Michigan
Coordination of undergraduate research projects on the design of a router chip for real-time parallel machines and on efficient hardware architectures for high-speed link scheduling.

STUDENT IN "TEACHING ENGINEERING" (CHE 697), WINTER 1995 — University of Michigan
Study of learning styles and teaching techniques, coupled with creation of syllabus, assignments, exams, and lecture for an undergraduate logic design course.

CO-EDITOR OF *She's an Engineer? Princeton Alumnae Reflect*, 1993 — Princeton University
Publishing of a book, edited with a colleague, on engineering education and women in engineering, addressing undergraduate curriculum, student retention, and teaching styles.

Professional societies

IEEE, IEEE Computer Society, ACM

References

Will be provided upon request.