

# N a y l a   N a s s i f ,   P h . D .

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## EDUCATION

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- **Ph.D.** Computer Engineering, 1996, University of California, Irvine.  
*Dissertation:* “The Study of Star Graph Algorithms.” Advisor: Nader Bagherzadeh.  
Researched parallel distributed algorithms for the star graph, which models an interconnection network for massively parallel systems. The algorithms address fault-tolerant network communication, graph embedding, and image analysis problems.
- **M.S.** Electrical Engineering, University of California, Irvine.  
*Emphasis:*
  - (a) Image Processing, Pattern Recognition and Classification,
  - (b) Computer Architecture, Distributed Computer Systems,
  - (c) RISC, VLSI design tools.
- **B.E.** Electrical Engineering, *with Distinction*, American University of Beirut.  
*Senior project:* Software for Data Acquisition, Manipulation and Display.

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## HONORS AND SCHOLARSHIPS

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- Regents’ Fellowship, U. C. Irvine, 1989, 1992, 1995.
- Engineering Alumni Fellowship, U. C. Irvine, 1994.
- Departmental Fellowship, U. C. Irvine, 1994.
- Tuition Fellowship, U. C. Irvine, 1988, 1989, 1993, 1994.
- UCI Foundation Scholarship, U. C. Irvine, 1988.
- UCI-Y. Sun Scholarship, U. C. Irvine, 1988.
- Dean’s honors List, American University of Beirut, 1981–1986.
- American University of Beirut Scholarship, 1983–1986.
- Deutscher Akademischer Austauschdienst Fellowship, 1983.

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## PERSONAL QUALIFICATIONS

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- A self-motivated and efficient team player, skilled in communicating effectively across technical and organizational boundaries.
- Proven training qualities with the ability to make technical information easy to understand.
- Demonstrated analytical skills at the depth and breadth aspects of problem solving.

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**TEACHING EXPERIENCE**

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**University of California, Irvine**

**2002–present**

**Instructor**

- Currently teaching Information and Computer Science classes, mentoring Teaching Assistants and designing laboratory assignments.

Upper Division      Human-Computer Interaction  
                                 Social Analysis of Computerization

Breadth                      Information Presentation and End-User System Design

**University of California, Irvine**

**1987–1989**

**Teaching Assistant/Associate**

- Gave presentations to Engineering graduate, undergraduate upper and lower level classes, designed and supervised laboratory experiments, prepared and conducted problem solving and discussion sessions for large classes, and assisted senior class students in project design, review, implementation, test, and verification.
- Taught or assisted in teaching the following classes:

Graduate                      Digital image analysis

Upper Division              Design of a Motorola 68000 microprocessor based board  
                                 Computer Architecture  
                                 Design and implementation of logic circuits  
                                 Design and implementation of continuous-time controls  
                                 Digital signal processing techniques  
                                 Digital filter design

Lower Division              Network analysis  
                                 Introduction to network analysis

**University of California, Irvine**

**1987–1988**

**Teaching Assistant Consultant**

- Developed teaching guidelines and student teacher evaluation forms. Prepared training workshops for all Engineering Teaching Assistants.

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## RESEARCH EXPERIENCE

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**University of California, Irvine**  
**Researcher**

**2002–present**

- Researching the identification and management of human risk factors in collaborative distributed system design, particularly in requirements identification and negotiation.

**University of California, Irvine**  
**Research Assistant**

**1993–1994, 1987–1987**

- Researched different techniques to embed an arbitrary binary tree into the star interconnection network. Developed the mapping algorithm and computed the embedding parameters.
- Used iterative techniques to reconstruct the volume picture elements of all layers of three-dimensional microscopic objects from multiple inclined two-dimensional projections in real-time.

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## INDUSTRY RESEARCH & DEVELOPMENT EXPERIENCE

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**Stamps.com, Santa Monica, CA**  
**Senior Systems Engineer**

**2000–2001**

- Specified requirements for performance analysis projects of Stamps production environment.
- Planned and conducted experiments, characterized workloads, and modeled growth. Uncovered system bottlenecks and identified hardware and software remedies which prevented service outages during peak holiday loads.

**Hyperformix, Inc., previously SES, Austin, TX**  
**Systems Performance Engineer**

**1999–2000**

- Modeled and simulated the performance of the industry's standard TPC E-commerce benchmark. This created a fast mechanism for evaluating vendor web server performance.
- Developed prototype tool to extract configuration and performance metrics from HP's OpenView database. This reduced modeling time by automating the import of such information.

**Rockwell Semiconductor Systems, Newport Beach, CA**  
**Senior Systems Engineer**

**1997–1998**

- Drove the creation of system models which provided early system design verification of Rockwell's proprietary Signal Processing Unit. Integrated and validated C models and VHDL components.
- Explored architectural trade-offs in early design feasibility analysis of real-time embedded communication products. Modeled system performance using BONEs to expose design bottlenecks and improve rapid-prototyping of on-chip systems.

- Evaluated methodologies to improve rapid-prototyping of on-chip systems. Assessed third party EDA tools and directed academic tool development to suit the selected design methodology.

**IBM, Server Division, Austin, TX**  
**Advisory Scientist**

**1996–1997**

- Investigated competitive approaches to system verification. Identified the need to verify IBM servers' system performance.
- Initiated and specified requirements for cross-departmental performance verification methodology. This set the framework for uncovering performance bugs early in the design stages.
- Applied the methodology to seven of IBM's high-end Symmetric Multi-Processor (SMP) servers. Using this methodology, identified the crucial performance parameters and designed the relevant tests to predict actual server performance characteristics. Presented methodology and results at IBM company-wide conference.
- Identified gaps in the system simulation plans of two server products. Consulted with the product teams to improve the functional test coverage of RISC architecture features during system verification.

**FileNET Corporation, Costa Mesa, CA**  
**Senior Engineer and Consultant**

**1989–1996**

- Accelerated through the ranks (Associate Engineer, Engineer, Senior Engineer, Consultant) while applying software engineering concepts in various phases of product life cycle.
- Designed test plans and developed automated tests for WorkFlo (Pascal-like) language, compiler, debugger, and the imaging libraries and distributed services. This produced releases with 85% less defects than the national industry value and earned me two early promotions and 15% bonus.
- Revised the user interface design and functional specification of FileNET's first open system product—the PC based WorkFlo development system—and later its object oriented successor. This resulted in friendlier interfaces and access to more FileNET underlying features.
- Developed product marketing demonstrations, participated in customer presentations, trained customer support personnel, and acted as the beta program primary customer technical contact. Significantly reduced costs by carefully reviewing customer network configuration proposals.

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## PUBLICATIONS

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- G. Mark, S. Abrams and N. Nassif, "Group-to-Group Distance Collaboration: Examining 'The Space Between,'" *ECSCW, Eighth European Conference on Computer-Supported Cooperative Work*, Helsinki, Finland, 2003.
- N. Nassif and N. Bagherzadeh, "Image Component Labeling on the Star Graph Using Divide-and-Conquer," *IEE Proc. Computers and Digital Techniques*, **145** (1): 9–14, 1998.
- N. Nassif, B. O'Krafka, M.C. Chiang and I. Hur, "System Performance Verification: Road Map and Early Results," Technical Report #51.0938, IBM, Austin, TX, 1997.
- N. Nassif and N. Bagherzadeh, "A Grid Embedding into the Star Graph for Image Analysis Solutions," *Information Processing Letters*, **60** (5): 255–260, 1996.
- N. Nassif and N. Bagherzadeh, "Image Analysis Solutions and Grid Embedding on the Star," *Proc. High Performance Computing 1996*, 396–402, New Orleans, LA, April 1996. Society for Computer Simulation.
- N. Nassif, "A Study of Star Graph Algorithms," Ph.D. Dissertation, University of California Irvine, 1996.
- N. Nassif and N. Bagherzadeh, "Image Component Labeling on the Star Graph Using Divide-and-Conquer and Grid Embedding," Technical Report #06-02-95, Electrical and Computer Engineering Department, UCI, 1995.
- N. Bagherzadeh, M. Dowd and N. Nassif, "Embedding an Arbitrary Binary Tree into the Star Graph," *IEEE Trans. on Computers*, **45** (4): 475–481, 1996.
- N. Bagherzadeh, M. Dowd and N. Nassif, "Embedding an Arbitrary Binary Tree into the Star Graph," Technical Report #94-02-03, Electrical and Computer Engineering Department, UCI, 1994.
- N. Bagherzadeh, N. Nassif and S. Latifi, "A Routing and Broadcasting Scheme on Faulty Star Graphs," *IEEE Trans. on Computers*, **42** (11): 1398–1403, 1993.
- N. Bagherzadeh, N. Nassif and S. Latifi, "A Routing Scheme on Faulty Star Graphs," *Proc. Pacific Rim Int'l Symp. on Fault-Tolerant Computing*, 214–218, 1993.
- N. Nassif and N. Bagherzadeh, "A New Method for Distributed Termination Detection," *Proc. Third Annual Parallel Processing Symp.*, 300–310, Mar 1989.

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## UNIVERSITY SERVICE

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- Member of UCI Engineering Dean Search Committee 1994–1996
  - Participated in the recruitment, interview, and evaluation of candidates.
- Vice President of UCI Associated Graduate Students (AGS) 1988–1990
  - Represented UCI graduate students to UC statewide Student Association (UCSA), UC President and UC Regents.
  - Recruited and appointed graduate student representatives to various academic and administrative campus committees.
  - Organized, coordinated and raised funds for UCI delegation to the 1989 statewide UC student summit.
- Chairperson of UCSA Student Life and Concerns Committee 1989–1990
  - Developed student policies that were later adopted and implemented by the university.
- Member of UCI Science Library Advisory Committee
  - Provided input in the early design stages of the library.