

AZER BESTAVROS

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PROFESSIONAL PREPARATION

- Ph.D. in Computer Science from Harvard University, Cambridge, Massachusetts, USA. June 1992
- S.M. in Computer Science from Harvard University, Cambridge, Massachusetts, USA. June 1988
- M.Sc. in Computer Engineering and Digital Control from Alexandria University, Egypt. June 1987
- B.Sc. *summa cum laude* in Computer Engineering from Alexandria University, Egypt. June 1984

ACADEMIC APPOINTMENTS

- Professor, Computer Science Department, Boston University, Boston, MA. 9/03 – present
- Chairman, Computer Science Department, Boston University, Boston, MA. 8/00 – 8/2007
- Associate Professor, Computer Science Department, Boston University, Boston, MA. 9/98 – 8/2003
- Assistant Professor, Computer Science Department, Boston University, Boston, MA. 9/91 – 8/1998
- Research Fellow, Computer Science Department, Harvard University, Cambridge, MA. 9/87 – 8/1991
- Instructor of Computer Science, Alexandria University & Academy of Science and Technology, Egypt. 9/84 – 6/1987

SELECTED PROFESSIONAL EXPERIENCE

- Consultant, Sycamore Networks Inc., Chelmsford, MA 8/08 – present
- Consultant and Expert Witness in US Federal Courts on Patent Litigations, various law firms. 4/01 – present
- Member of Technical Advisory Board, BU Technology Development Fund, Boston, MA. 9/00 – 8/2005
- Member of Technical Advisory Board, Quarry Technologies, Cambridge, MA. 3/00 – 3/2002
- Member of Technical Advisory Board, Pivia Inc., Cupertino, CA. 9/00 – 3/2002
- Senior Scientific Adviser, Allaire Corporation, Cambridge, MA. (Acquired by Adobe Inc.) 1/00 – 4/2001
- Consultant, Adero Inc., Charlestown, MA. 4/00 – 1/2001
- Consultant, WebManage Technologies Inc. and Network Appliance Inc., Chelmsford, MA. 6/99 – 8/2000
- Co-Founder and Principal Technical Officer, CNT Inc. (Acquired by Network Appliance Inc.) 4/98 – 9/1999
- Senior Technology Consultant, Bowne Internet Solutions, Cambridge, MA. 6/98 – 1/2000
- Member of Technical Staff, AT&T Bell Laboratories, Holmdel, NJ. 6/89 – 9/1989
- Consultant, US Aid Program and Chemonics International, Cairo Regional Office, Washington D.C. 1/87 – 9/1987
- Consultant, World Health Organization, East Mediterranean Regional Office, Alexandria, Egypt. 6/85 – 9/1987
- Senior Software Engineer, Awad & Partners Architectural Firm, Alexandria, Egypt. 6/85 – 1/1987

SELECTED HONORS

- CAS Nominee for The United Methodist Scholar/Teacher Award, Boston University 8/2008
- Best Paper Award, IEEE/ACM Distributed Computing in Sensor Systems (with student H. Morcos) 6/2008
- Best Paper Award at inaugural meeting of the ACM Wireless Network Security (with student M. Ocean) 4/2008
- Elected as Chair of the IEEE Technical Committee on the Internet 1/2007
- Senior Member of the ACM and of the IEEE 12/2006
- Selected as Distinguished Speaker of the IEEE Computer Society DVP program 4/2004
- Ranked as author of the largest and most cited body of core papers on Web related research on WebBib 8/1999
- IEEE Computer Society Distinguished Service Award 12/1999
- ACM Distinguished Service Award 10/1998
- Compaq Award for R&D in CS for work on characterizing Web reference locality (with M. Crovella) 11/1997
- Listed in the International Who's Who of Information Technology 9/1996
- Member of the Senior Common Room of Leverett House, Harvard University 9/1993
- Harvard University GSAS Class Marshal for the 1992 Commencement 6/1992
- Harvard University GSAS/DEAS Graduate Fellowship 9/1987
- Alexandria University Graduate Fellowship for Academic Excellence 9/1984
- Sadat Presidential Award for ranking third over 27,357 students in Egypt's nationwide diploma exam 8/1979

PROFESSIONAL SERVICE

Chair of the IEEE TC on the Internet; Member of the executive committee of the IEEE TC on Real-Time Systems; Associate Editor of IEEE Internet Computing and of the Embedded Systems Journal; External Visiting Committee Member for a number of CS Programs in the US; Reviewer for dozens of IEEE/ACM journals and NSF panels; PC member for dozens of conferences, including Infocom, Sigmetrics, RTSS, RTAS, VEE, WWW, PODC, Sigmod; PC Chair for WASA'09, WCW'01, RTAS'98, and RTDB'97; Workshop Chair for CRA Snowbird in 2000, 2006, and 2008; General Chair for HotWeb'06, ICNP'05, ASWN'04, WCW'01, RTAS'99, and ACM Sigplan LCTES'98.

SYNERGISTIC ACTIVITIES

The complete list of synergistic activities includes dozens of contributions to teaching, training, outreach, technology transfer, and service. The following are five specific examples of recent activities along these lines.

- **UNDERGRADUATE CS EDUCATION:** Developed and offered (since 1998) a core undergraduate course on the fundamentals of computing systems. This nationally unique course (<http://www.cs.bu.edu/~best/crs/cs350>) offers a rigorous treatment of the invariant concepts, algorithms, and performance evaluation methods underlying the design and implementation of computing systems, whether such systems are networks, databases, operating systems, web servers, architectures, etc.
- **INTERDISCIPLINARY EDUCATION:** Participated in a NSF-funded IGERT effort at BU to develop an undergraduate parallel computing curriculum. Currently leading a joint effort between the CS and Mathematics Departments at BU to develop a team-taught set of core courses on quantitative reasoning targeting undergraduates in the humanities and social sciences.
- **CS COMMUNITY BUILDING:** Organized CRA Snowbird workshops on models for university-led startups in 2000, on the state of CS publications in 2006, and on CS Research Infrastructures in 2008. Participated in three of the formative GENI workshops, in two of the formative NITRD workshops on CPS, and co-organized one such workshop in 2007.
- **FACULTY ADVISER OF STUDENT GROUPS:** Acted as the faculty adviser of the BU Student Chapter of the ACM, the BU Video Game Creators Consortium, and the BU Microsoft Student User Group. Activities included the organization and coordination of various technical talks, social events, technical competitions, and career-planning workshops.
- **TECHNOLOGY TRANSFER:** Founded an Industrial Affiliation Program to promote cross-pollination between academia and industry. Members included major labs (e.g., IBM, MS, Sun, Sprint, Cisco, VMware). Also, founding member of the Sensor Networks Consortium at BU. Pursued seven patent applications; five have issued and are licensed to industry, and one (US 6,370,584) was the basis of a startup now part of Network Appliance Inc.

PUBLICATIONS

The complete list of publications includes four edited books, dozens of book chapters, and over one hundred technical papers in refereed journals and conference proceedings. Since 1999, WebBib ranked this work as one of the top three cited bodies of web-related research by a single author. As of February 2009, with over 4,000 citations, CiteSeer ranks it in the top 4% in its list of most-cited CS authors. The following are recent representative publications.

1. EGOIST: Overlay Routing using Selfish Neighbor Selection. *In Proc. of ACM Co-Next, 2008* (with Smaragdakis *et al*).
2. Swarming on Optimized Graphs. *In Proc. of IEEE Infocom, 2008* (with Smaragdakis, Laoutaris, Michiardi, Byers, and Roussopoulos).
3. Adversarial Exploits of Adaptation Dynamics. *J of Parallel and Distributed Computing, 2007* (with Guirguis, Matta, and Zhang).
4. Implications of Selfish Neighbor Selection in Overlay Networks. *In Proc. IEEE Infocom, 2007* (with Laoutaris, Smaragdakis and Byers).
5. Distributed Selfish Caching. *IEEE Trans. on Parallel and Distributed Systems, 2006* (with Laoutaris, Smaragdakis, and Stavrakakis).
6. The snBench Virtualization Framework. *In Proc. of ACM/USENIX Virtual Execution Environments, 2005* (with Ocean and Kfoury).
7. Inference of Metric-Induced Network Topologies. *IEEE Trans. on Parallel and Distributed Systems, 2005* (with Harfoush and Byers).
8. Safety Verification of Network Protocol Compositions Using CHAIN. *In Proc. of IEEE ICNP, 2003* (with Bradley and Kfoury).
9. Network-Aware Partial Caching For Internet Streaming Media. *ACM Multimedia Systems Journal, 2003* (with Jin and Iyengar).
10. Self-Similarity in WWW Traffic: Evidence and Possible Causes. *IEEE/ACM Trans. on Networking, 1997* (with Crovella).

INVITED TALKS, COLLOQUIA, AND OUTREACH

The complete list of invited lectures exceed 90, with dozens of colloquia in major academic departments (e.g., Harvard, U Cambridge, MIT, Purdue, U Penn, U Mass Amherst) and research labs (e.g., Microsoft, AT&T, CRL, Akamai), plenary talks in conferences and industrial symposia, and recruitment and outreach talks. The following are recent representative talks.

- Thou Shalt Be A Selfish Overlay Neighbor. *CS and ECE Departments, U of Toronto, Canada, 2007* (Host: Jorg Liebeherr)
- Friendly Virtual Machines. *Microsoft Research, Redmond, 2005* (Host: Venkat Padmanabham).
- Exploiting System Dynamics for Internet RoQ Attacks. *CS Department, U Cambridge, England, 2004* (Host: John Crowcroft).
- Networking Research that Rocks! *ECE Department, U of Puerto Rico, Mayaguez, 2004* (Host: Domingo Rodriguez).
- Practical and Efficient Construction of Network Caricatures. *ICIR/ICSI at UC Berkeley, 2003* (Hosts: Dick Karp and Sally Floyd).

STUDENTS AND COLLABORATORS

- **Former Advisees:** 19 Ph.D. students (6 female), 48 Masters students (13 female, 2 minority), and 6 REU (2 female) since 1991. Former graduate students have secured positions in academia and industry: CS at NCSU, CS at CWRU, CS at U Texas, Microsoft, AT&T Research, Bellcore, IBM, BBN, EMC Corp, HP, Google, The Open Group, and GTE Laboratories.
- **PhD Students, Postocs, and Collaborators** (employers) over the last five years: V. Almeida (UFMG, Brazil), A. Bradley (Amazon), J. Byers (BU), M. Crovella (BU), M. Guirguis (U Texas), K. Harfoush (NCSU), S. Jin (Case Western U), A. Kfoury (BU), G. Kollios (BU), N. Laoutaris (Telefonica Labs), J. Londono (BU), F. Li (Florida State U), I. Matta (BU), P. Michardi (Eurecom), W. Meira (UFMG, Brazil), M. Ocean (Endicott College), M. Roussopoulos (Harvard U), G. Smaragdakis (Deutsche Telecom), I. Stavrakakis (U Athens), S-H. Teng (BU), E. Veloso (UFMG, Brazil), R. West (BU), G. Zervas (BU), Y. Zhang.
- **PhD Advisor:** T. E. Cheatham, Jr. (Harvard U, deceased).

EXTRACURRICULAR ACTIVITIES

Father! Avid Gardner. Founder and maintainer of the Coptic Network Archives. Mentor of high-school church youth.