

AZER BESTAVROS

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PROFESSIONAL PREPARATION

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

ACADEMIC APPOINTMENTS

- Professor, Computer Science Department, Boston University, Boston, MA. 09/03 –
- Founding Director, Hariri Institute for Computing, Boston University, Boston, MA. 09/10 –
- Chair, Data Science Initiative, Boston University, Boston, MA. 09/14 –
- Co-chair, Council on Edu Tech & Learning Innovation, Boston University, Boston, MA. 09/12 – 06/2014
- Visiting Professor, Institut Eurecom, Sophia-Antipolis, France. 08/08 – 09/2008
- Chairman, Computer Science Department, Boston University, Boston, MA. 08/00 – 08/2007
- Visiting Professor, Computer Science Department, Harvard University, Cambridge, MA. 09/99 – 01/2000
- Associate Professor, Computer Science Department, Boston University, Boston, MA. 09/98 – 08/2003
- Assistant Professor, Computer Science Department, Boston University, Boston, MA. 09/91 – 08/1998
- Research Fellow, Computer Science Department, Harvard University, Cambridge, MA. 09/87 – 08/1991
- Teaching Fellow, Computer Science Department, Harvard University, Cambridge, MA. 09/89 – 09/1990
- Instructor of Computer Science, Alexandria University & Academy of Science, Egypt. 09/84 – 06/1987

SELECTED PROFESSIONAL APPOINTMENTS

- Board Member, Cloud Computing Caucus Advisory Group, Washington DC. 01/14 –
- Consultant and Expert Witness in US Federal Courts on Software and Systems IP. 04/01 –
- Consultant, Raytheon BBN Technologies, Cambridge, MA. 02/10 – 09/2014
- Chair of the IEEE Computer Society, Technical Committee on the Internet 01/07 – 12/2012
- Consultant, Sycamore Networks Inc., Chelmsford, MA. 07/08 – 06/2010
- Visiting Distinguished Scientist, Microsoft Cairo Innovation Center, Cairo, Egypt. 01/09 – 03/2009
- Visiting Scholar, Telefonica Research Laboratories, Barcelona, Spain. 06/08 – 08/2008
- Technical Advisory Board member, Quarry Tech, Cambridge, MA 04/00 – 02/2003
- Technical Advisory Board member, Pivia Inc., Cupertino, CA 10/00 – 12/2003
- Senior Scientific Adviser, Allaire Corp., Cambridge, MA. (Acquired by Adobe Inc.) 03/00 – 04/2001
- Consultant, WebManage Tech Inc. and Network Appliance Inc., Chelmsford, MA. 10/99 – 12/2000
- Co-Founder and Principal, CNT Inc., Boston, MA. (Acquired by Network Appliance) 01/98 – 10/1999
- Senior Technology Consultant, Bowne Internet Solutions, Cambridge, MA. 06/98 – 02/2000
- Chief Scientist and Principal, Open Sesame Inc., Cambridge, MA. 01/98 – 12/1998
- Software Technology Consultant, Charles River Analytics, Cambridge, MA. 01/97 – 12/1997
- Member of Technical Staff, AT&T Bell Laboratories, Holmdel, NJ. 06/89 – 09/1989
- Software Engineer, World Health Organization, Regional Office, Alexandria, Egypt. 06/85 – 09/1987

SELECTED HONORS AND AWARDS

- Recipient of over \$20M in peer-reviewed government and industrial research awards Since 09/1992
- Elected Chair of the IEEE Computer Society Technical Committee on the Internet 01/07 – 12/2012
- Winner of inaugural ACM Sigmetrics Test of Time Award for best paper in last 15 years 06/2010
- Winner of the United Methodist Scholar/Teacher Award for contributions to academe 01/2010
- Recipient of IEEE and ACM Distinguished Awards for Service to Research Community 1998 & 1999
- Selected as Harvard University GSAS Class Marshal for the 1992 Commencement 06/1992

SELECTED PUBLICATIONS

Google lists 15,978 citations and 619 patent references to over 400 authored or co-authored articles, with an H-Index of 50, with 31 articles having more than 100 citations each, and with 134 articles having more than 10 citations each.

- N. Volgushev, A. Lapets, and A. Bestavros. Programming Support for an Integrated Multi-Party Computation and MapReduce Infrastructure. Proc. IEEE Hot Topics in Web Systems and Technologies, Washington, DC, Nov 2015.
- M. Teixeira and A. Bestavros. End-to-End Informed VM Selection in Compute Clouds. Proc. ICC'15: IEEE International Conference on Cloud Computing Systems, Networks, and Applications, London, UK, June 2015.
- C. Bassem and A. Bestavros. Network-Constrained Packing of Brokered Workloads in Virtualized Environments. Proc. CCGrid'15: IEEE/ACM Symposium on Cluster, Cloud & Grid Computing, Guangdong, China, May 2015.
- N. Laoutaris, G. Smaragdakis, K. Oikonomou, I. Stavrakakis, and A. Bestavros. Distributed Server Migration for Scalable Internet Service Deployment. IEEE/ACM Transactions on Networking 22(3):917-930, June 2014.
- R. Skowyra, S. Bahargam, and A. Bestavros. Software-Defined IDS for Securing Embedded Mobile Devices. Proc. HPEC'13: The IEEE High Performance Extreme Computing Conference, Waltham, MA, September. 2013.
- R. Skowyra, A. Lapets, A. Bestavros, and A. Kfoury. Verifiably-Safe Software-Defined Networks for CPS. Proc. ACM Conference on High Confidence Networked Systems, Philadelphia, PA, May 2013.
- V. Ishakian, R. Sweha, A. Bestavros, and J. Appavoo. CloudPack: Exploiting Workload Flexibility through Rational Pricing. Proc. ACM Middleware Conference, Montreal, Canada, Dec 2012. (Best Paper Award).
- R. Sweha, V. Ishakian, and A. Bestavros. AngelCast: Cloud-based Peer-Assisted Live Streaming Using Optimized Multi-Tree Construction. Proc. ACM Multimedia Systems Conference (MMsys), Chapel Hill, NC, Feb 2012.
- J. Londono, A. Bestavros, and N. Laoutaris. Trade and Cap: A Customer-Managed, Market-Based System for Trading Bandwidth Allowances at a Shared Link. Computer Networks Journal (COMNET), 2011.
- G. Smaragdakis, N. Laoutaris, P. Michiardi, A. Bestavros, J. Byers, and M. Roussopoulos. Distributed Network Formation for n-way Broadcast Applications. IEEE Transactions on Parallel and Distributed Systems, 2010.
- K. Harfoush, A. Bestavros, and J. Byers. Measuring Bottleneck Bandwidth of Targeted Path Segments. IEEE/ACM Transactions on Networking, 17(1):80-92, February 2009.
- M. Ocean and A. Bestavros. Wireless and physical security via embedded sensor networks. Proc. WiSec'08: The ACM Conference on Wireless Network Security, Alexandria, VA, March 2008. (Best Paper Award).

SELECTED SYNERGISTIC ACTIVITIES

- UNDERGRADUATE EDUCATION: Developed and offered (since 1998) a nationally unique undergraduate course on the fundamentals of computing systems (<http://www.cs.bu.edu/~best/crs/cs350>), offering a rigorous treatment of the invariant concepts, algorithms, and performance evaluation methods underlying the design and implementation of computer architectures, operating systems, networks, databases, web services, distributed and cloud systems, *etc.* Co-developed in 2012 a new SE course focusing on the use of formal methods for safety-critical applications.
- INTERDISCIPLINARY EDUCATION: Co-leading the Education and Outreach mission of the \$100M+ Massachusetts Green HPC Center. Co-led the development at BU of a Math/CS team-taught core computational reasoning curriculum. Co-led NSF IGERT effort at BU to develop an undergraduate parallel computing curriculum. Co-leading the Digital Learning Initiative at BU with a focus on using online educational technology for STEM education. Working as BU liaison with the learning analytics research committee of the edX consortium.
- CS COMMUNITY BUILDING AND ADVOCACY: Organized CRA Snowbird workshop on university-led startups in 2000, on the state of CS publications in 2006, and on CS Research Infrastructures in 2008. Participated in five and organized two of the formative workshops for GENI and for NITRD CPS. Gave congressional briefings in 2013-15 in support of continued funding for CS. Chaired the 2014 CNS Committee of Visitors for NSF CISE. Serving on the board of the Cloud Computing Caucus to educate lawmakers and the public on cloud computing.
- EDITORIAL SERVICE: Member of CACM Editorial Board and co-Chair of CACM Research Highlights; Editor of IEEE Internet Computing; ExCom member and former chair of IEEE TC on Internet; ExCom member of IEEE TC on Real-Time Systems; Founding SC member of IEEE Internet of Things Journal; PC/General Chair for IEEE WISE'14, IC2E'14, WASA'09, HotWeb'06; PC member for top venues, including Infocom, Sigmetrics, ICNP, RTSS, RTAS, VEE, CCGrid, WWW, PODC, MMsys, Sigmod, and the Heidelberg Laureate Forum.
- TECHNOLOGY TRANSFER: Founded an Industrial Affiliate Program to promote cross-pollination between BU/CS and industrial members, including IBM, MS, Sun, Sprint, Cisco, and VMware. Pursued seven patent applications; five issued and are licensed, and one (US 6,370,584) was the basis of a startup now part of NetApp Inc. Currently, co-leading a university start-up based on NSF-funded technology for malware detection using formal methods. Also, co-leading the Mass. Open Cloud project, an \$18M collaborative involving academia, industry, and the state.