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

- William Fairfield Warren Distinguished Professor, Boston University, Boston, MA. — 04/17 –
- 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 EduTech & 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

- Consultant and Expert Witness in US Federal Courts on Software and Systems IP. — 04/01 –
- Board Member, Massachusetts Big Data Initiative, Boston, MA. — 01/14 –
- Board Member, Cloud Computing Caucus Advisory Group, Washington DC. — 03/14 – 09/2016
- 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 REPRESENTATIVE PUBLICATIONS

Most Relevant Publications

- N. Volgushev, M. Schwarzkopf, B. Getchell, A. Lapets, M. Varia, and A. Bestavros. Conclave: Secure Multi-Party Computation on Big Data. Eurosys'19, Dresden, Germany, 2019. https://goo.gl/R9F1LK
- E. Asyabi, S. Kohroudi, M. Sharifi, and A. Bestavros. TerrierTail: Mitigating Tail Latency of Cloud Virtual Machines. IEEE Trans. on Parallel and Distributed Systems, 2018. https://goo.gl/pjJhq6
- C. Liao, Y. Klausner, D. Starobinski, E. Simhon, and A. Bestavros. A Case Study of a Shared/Buy-in Computing Ecosystem. Cluster Computing, Elsevier, Feb. 2018. https://goo.gl/GHmJSa
- C. Bassem and A. Bestavros. Network-Constrained Packing of Brokered Workloads in Virtualized Environments. IEEE/ACM CCGrid'15, China, May 2015. https://goo.gl/qEPL6V
- V. Ishakian, R. Sweha, A. Bestavros, and J. Appavoo. CloudPack: Exploiting Workload Flexibility through Rational Pricing. ACM Middleware'12, Canada, Dec 2012. (Best Paper). https://goo.gl/2ic3k7

Other Representative Publications

- K. Bab, R. Issa, A. Lapets, A. Bestavros, and N. Volgushev. Scalable Secure Multi-Party Network Vulnerability Analysis. IEEE Security & Privacy: TMC, San Jose, CA, Apr 2017. https://goo.gl/x38EQc
- N. Volgushev, A. Lapets, and A. Bestavros. Programming Support for Integrating MPC in MapReduce Infrastructures. IEEE HotWeb'15, Washington, DC, Nov 2015. https://goo.gl/Ghdca6
- N. Laoutaris, G. Smaragdakis, K. Oikonomou, I. Stavrakakis, and A. Bestavros. Distributed Server Migration for Scalable Internet Service. IEEE/ACM ToN 22(3), Jun 2014. https://goo.gl/sLEYmk
- J. Londono, A. Bestavros, and N. Laoutaris. Trade & Cap: A Customer-Managed, Market-Based System for Trading Bandwidth at a Shared Link. COMNET, 55(17), 2011. https://goo.gl/Sm8qMn
- K. Harfoush, A. Bestavros, and J. Byers. Measuring Bottleneck Bandwidth of Targeted Path Segments. IEEE/ACM Transactions on Networking, 17(1):80-92, 2009. https://goo.gl/QFqYJV

SELECTED SYNERGISTIC ACTIVITIES

- **Interdisciplinary Education:** Developed and offered since 1998 a nationally unique course on invariant concepts, algorithms, and performance models underlying design/implementation of computing systems, networks, databases, and distributed/cloud computing. Co-led since mid-1990s multiple NSF-funded training programs focusing on high-performance, parallel computing, bioinformatics, and big-data. Co-developed in 2010 a team-taught Math/CS core quantitative reasoning course emphasizing computational thinking to non-majors. Co-developed in 2012 a software engineering course focusing on use of formal methods for safety-critical applications. Co-developed in 2016 a course focusing on scalable design and implementation of distributed cloud-scale multi-party computation.
- **Advanced Computing Infrastructure:** Led BU's faculty participation in conception and design of the $125M+ Mass Green High Performance Computing Center (MGHPCC) in Holyoke and co-led its Research, Education and Outreach mission since 2010. Co-leading since 2014 the Mass Open Cloud, a $25M collaborative for advancing open-source cloud research and innovation, involving academia, industry, and the state. Co-led the BU Digital Learning Initiative focusing on online educational technology platforms through the edX consortium.
- **Editorial Service:** Co-Chair of CACM Research Highlights; EB member of CACM, IEEE Internet Computing, and IEEE IoT Journal; Former chair of IEEE TC on Internet; SC member of IEEE TC on Real-Time Systems; PC/General Chair for IEEE WISE'14, IC2E'14, WASA'09, HotWeb'06. Organized formative workshops that led to ACM Sigcomm IMC and Sigplan/Sigbed LCTES; PC member for top venues, including Infocom, Sigmetrics, ICNP, RTSS, RTAS, VEE, CCGrid, WWW, PODC, MMsys, Sigmod, MASCOTS, and the Heidelberg Laureate Forum.
- **CS Community Building and Advocacy:** Organized CRA Snowbird workshops on university-led startups in 2000, on CS publications in 2006, and on CS Research Infrastructures in 2008. Organized formative workshops that led to NSF GENI and CPS programs. Gave congressional briefings in 2013-15 in support of ACI funding. Chaired the 2014 NSF/CISE CNS Committee of Visitors. Served on boards of the congressional Cloud Computing Caucus and the MassTech Big Data Initiative to educate lawmakers and the public on cloud computing and big data.
- **Economic and Societal Impact:** Pursued 10 patent applications that grew out of NSF-funded projects; eight issued and are licensed: US 6,370,584 was the basis of a startup acquired by NetApp Inc. and US 9,495,542 is the basis of a malware detection startup. In 2016, created BU Spark! a program for student-centered entrepreneurship in computing, empowering students to pursue next-stage development of their creations. Reduced to practice and evangelized the use of secure MPC to promote privacy-preserving data-driven social equity research, including first-of-its-kind study in 2017 on gender pay equity based on payroll data for 112,600 workers at 69 companies in Boston.