Opportunities with the Advanced Technology Group

Explore the ideas and technology that will define the future of storage and data management.
Join NetApp – Listed on *Fortune’s “100 Best Companies to Work For.”*

Would you like to collaborate with the top minds in the storage and data management field? One of the best ways is to work for NetApp, named #1 on *Fortune’s “100 Best Companies to Work For.”* Visit us online for current job opportunities at www.netapp.com/careers.

**NetApp Overview**

With NetApp as your collaboration partner or employer, you’ll have the chance to make an impact from day one with an innovative storage and data management solutions provider. You’ll find leading-edge technology and an environment where integrity, teamwork, leadership, efficiency and aspiration are valued and encouraged. You’ll help accelerate business breakthroughs and enable outstanding cost efficiency for our customers. Our past advancements have included thin volume provisioning, RAID double parity (RAID DP®), unified protocol support (iSCSI, FCP, NFS, CIFS), Snapshot™ technology, primary data deduplication, and scalable storage technology.

**ATG Overview**

As part of the CTO office, the Advanced Technology Group (ATG) focuses on engaging and evaluating emerging technologies and trends that may affect the storage industry and the company’s long-term business. We seek top talent whether it is to join our product research team or to collaborate with us through university research relationships. ATG delivers its innovations through the following means:

- **Productization:** Partner with NetApp product management and engineering to realize our innovations into new or improved NetApp® products that deliver real business value to our customers.
- **Patents:** Describe and protect our work in invention disclosures and patents
- **Papers:** Publish scientific papers that describe work done both in-house and in collaboration with researchers from top universities in order to influence the industry
- **Standards:** Participate in major standards bodies such as IETF, SNIA, and DMTF

**ATG Locations**

We have sites in Sunnyvale, California; Waltham, Massachusetts; Raleigh, North Carolina; and Bengaluru, India.
ATG Research Agenda

Our research agenda focuses on all areas of storage and data management. We are a key contributor to leading-edge products and we collaborate extensively with external researchers.

PRODUCT RESEARCH

We work at the earliest stages of product development across a diverse set of problem areas. Some of the key product areas where we have been making an impact include:

• Virtualization technologies – Striving to develop the best storage solution for virtualized environments and leverage virtualization technology within the storage sub-system
• Cloud technologies – Evaluate and develop key technologies needed to enable storage in cloud environments
• New hardware technologies – Investigate new architectures for using non-volatile memory technologies to provide better cost, performance, reliability and power efficiency
• Data Management – Provide end-to-end storage management capabilities including developing underlying technologies for service level objective (SLO) based management
• Software quality and supportability – Systematically improve software quality and supportability
• Scalable systems – Increase the horizontal and vertical scale of NetApp systems with respect to both capacity and performance
• Search technologies – Provide thought leadership for advanced search capabilities in NetApp products
• Protocols – Lead the storage industry in the development of parallel data access and heterogeneous federation protocols

EXTERNAL COLLABORATION

We enjoy a significant number of university relationships and collaborations. Key initiatives include:

• NetApp Faculty Fellowships and Research Grants
• Memberships in university consortiums
• Visiting professor sabbaticals
• Graduate student internships
• An annual University Day where top researchers discuss the latest trends in storage technology with NetApp thought leaders and industry speakers
• Leadership and participation in standards bodies including SNIA, IETF, and DMTF

Sponsored Collaborations

We sponsor research projects of professors and students at the following universities:

• Brown University
• College of William and Mary
• Cornell University
• Duke University
• Harvard University
• Indian Institute of Science
• Indian Institute of Technology – Delhi
• Johns Hopkins University
• MIT
• SUNY Stony Brook University
• TU Dortmund
• University of Michigan – Ann Arbor
• University of Toronto
• University of Waterloo-Ontario
• University of Wisconsin – Madison

We are also a member of the following university-industry research consortiums:

• Parallel Data Lab (Carnegie Mellon University)
• Stanford Experimental Data Center Laboratory
• AMP Lab (UC – Berkeley)
• Center for Networked Systems (UC – San Diego)
• Storage Systems Research Center (UC – Santa Cruz)
Where could you go if there were no limits on your innovation?

Make your biggest impact in advancing the innovation of storage systems and data management by exploring your opportunities with the Advanced Technology Group at NetApp. Visit www.netapp.com/atg or e-mail atg-opportunities@netapp.com

Publications

We routinely publish papers at premier technical conferences. A select list of such publications includes:

Ding Yuan, Haohui Mai, Weiwei Xiong, Lin Tan, Yuanyuan Zhou, Shankar Pasupathy. “SherLog: Error Diagnosis by Connecting Clues from Run-time Logs.” ASPLOS 2010


Andrew Leung, Minglong Shao, Tim Bisson, Shankar Pasupathy, Ethan Miller. “Spyglass: Fast, Scalable Metadata Search for Large-Scale Storage Systems.” FAST 2009

Andrew Krioukov, Lakshmi Bairavasundaram, Randy Thelen, Kiran Srinivasan, Garth Goodson, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau. “An Analysis of Data Corruption in the Storage Stack.” FAST 2008 (Best Student Paper Award)

Lakshmi Bairavasundaram, Garth Goodson, Bianca Schroeder, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau. “Parity Lost and Parity Regained.” FAST 2008


Jiri Schindler, Sandip Shete, Keith Smith. “Improving the Throughput of Small Disk Requests with Proximal I/O.” FAST 2011


Non-Profit Organizations

The NetApp CTO Office actively supports many non-profit organizations including:

- The Anita Borg Institute for Women in Technology
- The FreeBSD Foundation
- IEEE-ISTO
- The Linux Foundation
- USENIX