CANTURK ISCI

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EXPERIENCE

State Street Technology Research, New York, NY

Managing Director, Distinguished Engineer in *Advanced Cloud Infrastructure* 2018 - 2019
- Member of leadership team that built a new private cloud, spanning 4 regions, 1000+ nodes, 100K+ instances, and addressing key challenges for compliance, security, availability, automation and agility.
- Built Cloud Operational Visibility team and service delivery roadmap from ground up.
- Led distributed engineering teams that delivered the operational visibility services stack, including logging, monitoring, audit, bill of materials, drift, alerting, DevOps validation, compliance and security.
- Worked with several business lines for cloud transformation and service adoption/integration.
- These services were used by cloud teams and adopted by business lines for operations, security, audit, DevOps and site reliability, tracking billions of events across regions daily.

IBM T.J. Watson Research Center, Yorktown Heights, NY

Manager, Principal Researcher in *Cloud Monitoring, Security and Analytics* 2014 - 2018
- Led worldwide research and development teams to deliver novel operational visibility and security analytics solutions for cloud.
- Worked with many external clients on cloud onboarding, service integration, technology requirements and gaps, security, compliance and operational analytics.
- These solutions were deployed in public and private cloud services around the world, serving a large number of high-profile customers.
- Built-in Cloud Monitoring: Delivered the *Built-in Cloud Monitoring* service for IBM Cloud, based on a novel deep introspection technology for containers and VMs. This service is used at scale in IBM Public Cloud across all geographies. Built-in Monitoring has been highlighted in press releases, tech news and in industry forums by top executives as a key differentiator.
- Security Analytics and Vulnerability Advisor: Led the worldwide Operational Analytics squad that delivered the highly-popular *Vulnerability Advisor* security and compliance service in IBM Cloud. Vulnerability Advisor runs in all IBM Public Cloud locations and has scanned millions of instances. It is also as a key component of IBM Cloud Private Kubernetes offering. Vulnerability Advisor has been prominently highlighted in press releases, tech news and in top executive keynotes.

Research Staff Member in *Scalable Data Center Analytics* 2012 - 2014
- Agentless VM Monitoring: Designed a novel VM monitoring technology based on introspection. This is included in IBM Virtual Image Library, and is integrated in IBM Cloud and Watson.
- Cloud Security Event Monitoring: Developed security information and event monitoring based on near-realtime, VM introspection. This was integrated with QRadar SIEM solution.

Research Staff Member in *Virtualization and Data Center Energy Management* 2008 - 2012
- VM Demand Estimation: Developed an accurate resource accounting and demand prediction solution virtual machines. This solution is deployed in IBM VMControl, PureApp Systems and OpenStack.
- Agile Power Management: Implemented a new power management stack across hardware, firmware, OS and virtualization middleware that was deployed in enterprise servers and large-scale data centers.
- Data Center Robot: Designed autonomic data center robots for thermal monitoring and asset tracking. These robots were deployed in data centers in four continents as an IBM Industry Solutions offering.

VMware Inc., Palo Alto, CA

Senior Member of Technical Staff in *Performance R&D* 2007 - 2008
- VirtualCenter Performance and Scalability: Discovered and implemented key performance features for vCenter, Distributed Resource Scheduling (DRS) and Distributed Power Management (DPM).
- Developed distributed resource management policies for VirtualCenter and ESX hypervisor.

EDUCATION

PhD/MA Princeton University, Princeton, NJ 2001 - 2007
Computer Engineering (*Princeton Graduate Fellow*)

MS University of Westminster, London, UK 2000 - 2001
Computer Systems (*British Council Millennium Scholar, Graduated with Distinction*)

BS Bilkent University, Ankara, Turkey 1996 - 2000
Electrical Engineering (*Bilkent Undergraduate Fellow, Graduated with High Honors*)

PUBLICATIONS	50+ publications with 4000+ citations on cloud, virtualization, containers, operational visibility, security, analytics, computer architecture, energy management, data centers, robotics and sensing. Electronic copies available at: `http://www.canturkisci.com/pubs`	

(Scholar: `http://is.gd/pubs_scholar` | DBLP: `http://is.gd/pubs_dblp`)

PATENTS 50+ issued or pending patents with Intel, VMware and IBM.

(Issued: `http://is.gd/uspto` | Pending: `http://is.gd/uspto_pending`)

EXTERNAL ACTIVITY

▪ Adjunct Faculty, *Princeton University, Dept. of Computer Science*	2017 - 2018
▪ Open Collaborative Research Lead *with Carnegie Mellon, Univ. of Toronto, Boston Univ.*	2014 - 2018
▪ Program chair, editor, committee member *for 30+ conferences, journals and NSF panels.*	2009 - 2019
▪ Co-advised PhD Theses, joint research and internships *for 20+ students*	2008 - 2019
▪ Numerous press features, blogs, talks, podcasts *on tech, industry and academic forums*	2008 - 2019

AWARDS

Master Inventor, *IBM*	2015
Open Source Impact Award, *Agentless System Crawler*, DeveloperWorks	2015

High Value Patent Awards

▪ *Passive Monitoring of Virtual Systems Using Agentless Near-Realtime Indexing*	2016
▪ *Managing Companionship Data*	2014
▪ *Discovery and Monitoring of an Environment Using a Plurality of Robots*	2014
▪ *Virtualization and Dynamic Resource Allocation Aware Storage Level Reordering*	2012

Best Paper Awards

▪ *Agentless Cloud-wide Streaming of Guest File System Updates*, IEEE IC2E	2014
▪ *Towards Data Center Self-Diagnosis Using a Mobile Robot*, IEEE ICAC	2011
▪ *Predicting VM Behavior for DRS & DPM Cost/Benefit Analysis*, VMWorld	2008

Key Technical Accomplishment Awards

▪ *Leadership for IBM Vulnerability Advisor Service*	2018
▪ *Contributions to IBM Virtual Image Library, IBM Cloud Orchestrator*	2016
▪ *Key Research Contributions to Data Center Energy and Resource Management*	2015
▪ *Pioneering Contributions to VM Image Analytics*	2015

TECHNOLOGIES

Develop:	Python, Java, C/C++, Matlab, Perl, Shell
Test/Deploy:	Docker, TravisCI, Jenkins, Ansible, Terraform
Run:	Kubernetes, Openstack, Qemu/KVM, VMware
Manage:	Elastic Stack, Prometheus/Grafana, Kafka
Collaborate:	Github/Zenhub, Jira/Trello/Confluence
Verify:	Vulnerability Advisor, CIS, OpenScap