CANTURK ISCI

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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*)

EXPERIENCE

State Street Technology Research, New York, NY

Managing Director, Distinguished Engineer in *Advanced Cloud Infrastructure* 2018 – 2019

- Summary: *Building the next generation cloud from bits and MIPS to applications and services. Leading distributed research and development teams to deliver the operational visibility service stack—logging, monitoring, availability, audit, drift, alerting, security, compliance—for cloud.*
- Built the Cloud Operational Visibility team and the service development roadmap from ground up.
- Delivered operational visibility service for infrastructure, cloud and tenants.
- Delivered key solutions for bill of materials, config drift, CICD validation, compliance and security.

Princeton University, Department of Computer Science, Princeton, NJ

Adjunct Faculty 2017 – 2018

- Teaching COS-375, Computer Architecture and Design, open to CS/EE juniors, seniors and grads.

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

Principal, Manager, Master Inventor in *Cloud Monitoring, Security and Analytics* 2014 – 2018

- Summary: *Led worldwide research and development teams to deliver novel operational visibility and security analytics solutions for cloud. Pioneered research on config analytics, software discovery and cloud introspection.*
- Operational Visibility for Cloud: Designed a novel deep introspection technology for containers and VMs. Delivered the *Built-in Container Monitoring* service for IBM Public Cloud. This service is used at scale in IBM Cloud across all geographies. Built-in Monitoring has been highlighted in press releases and 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 and executive keynotes including IBM's CEO.

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 multiple IBM cloud solutions.
- 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.

HONORS

IBM Outstanding 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
Open Source Impact Award, *Agentless System Crawler, DeveloperWorks Rocketship Project*	2015
Master Inventor, *IBM*	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
Graduate Fellowship, Princeton University	2001
M.Sc. with Distinction, University of Westminster, UK	2001
Millennium Scholarship, British Council, awarded to a single candidate in Turkey	2000
Undergraduate Fellowship, Bilkent University, Turkey	1996

TECHNOLOGIES

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

PUBLICATIONS

Summary: *50+ publications with 4000+ citations on cloud, virtualization containers, operational visibility, security, computer architecture, energy-aware computing, data centers, robotics/sensing and analytics.*

(Electronic copies available at **`http://www.canturkisci.com/ETC/MYpublications.html`)**

PATENTS

Summary: *50+ issued or pending patents with Intel, VMware and IBM.*

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