

Srujan Kotikela, PhD

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SUMMARY

2+ years of experience **providing training** for computer topics in **academia** and industry.
4+ years of experience in **researching** and **engineering** advanced security solutions.
Experienced in developing and teaching **computer security courses** and virtual **labs**.
Specializes in **system security**, **trusted computing**, container security, and cloud computing.
Participated and won prizes in **regional** and **national level cybersecurity competitions**.
Founded the **Club for Cyber Security & Intelligence (CCSI)** and **mentored** students in security.
Member of **College Entrepreneurship Organization** and organized the first-ever **TEDxUNT**.
Created **intellectual property**, and **holds patents** for novel security solutions from **USPTO**.
Published & presented scholarly research in peer-reviewed **conference** and **journal articles**.
Excellent **communication skills** with a flair for **personalizing the content** for the audience.

WORK EXPERIENCE

Software Engineer

April 2018 - Present

Qualys, Inc.
Foster City CA

Building containerized gateway platform to deliver security services to the customers in an efficient and effective manner. Researching and developing new innovative security solutions using *Linux containers* and *hardware virtualization*. Involved with design, development, and testing applications to overcome challenges in building distributed systems using containers and other virtualization technologies.

Senior Sandbox Research Engineer

August 2016 - March 2018

Qualys, Inc.
Foster City CA

Developed the next generation dynamic malware analysis sandbox solution which thwarts many malware evasion techniques. Using modern hardware *virtualization technologies*, engineered a completely agent-less dynamic malware analysis sandbox solution to trace every detail of malware execution. Contributed to the research, analysis, design, and development of various components of the sandbox platform.

Senior Security Scientist

May 2015 - May 2016

Armor Defense Inc.
Richardson TX

As a member of the R&D team, developed patents for detecting malware activity using *virtual machine introspection*. Developed various tools and processes for the Security Operations Center (SOC). Designed and developed a collective threat intelligence framework using big-data framework. Oversaw *requirements analysis* for a new security orchestration product. Conducted stakeholder interviews and facilitated extensive discussion across various teams.

Research Assistant

Sep 2012 - Apr 2015

University of North Texas
Denton TX

Designed and built Race-free on-demand integrity measurement (Radium) architecture. Radium provides a trustworthy mechanism to remotely verify the integrity of a cloud workload. Radium uses *LibVMI* virtual machine introspection library and *Volatility* memory forensics framework. Designed and built *ontology* based *vulnerability assessment* framework for cloud computing (Vulcan). Vulcan allows to model the cloud infrastructure in a simple fashion and performs efficient assessments.

Teaching Assistant

Sep 2012 - Dec 2013

University of North Texas
Denton TX

Worked as teaching assistant for various *graduate and undergraduate courses*. Notably, Introduction to Computer Security and Information Assurance Systems. Prepared virtualization based *lab and hands-on assignments* for various security courses. Prepared lab manuals with detailed steps for using virtual labs. Helped in preparation and evaluation of assignments, tests, and projects.

Software Engineer

Feb 2012 - Aug 2012

Fidelity Investments

Westlake TX

Member of CoreOps, worked with the Service Manager and AlarmPoint teams. During the AlarmPoint *migration to Linux* from Unix, responsible for converting ksh based shell scripts to bash. Tested and debugged AlarmPoint compatibility with bash scripts. Updated and maintained team website for Service Manager team and won “*On the Spot*” award.

Research Assistant

Sep 2010 - Jan 2012

University of North Texas

Denton TX

Created a framework to implement hardware security architectures in the hypervisor. The framework can be used for testing and implementing hardware architectures in virtualized environments like Cloud. Implemented *new hypercalls, user-level (ring-3) to hypervisor hypercalls*, DomU to Dom0 communication through hypercalls and VIRQs. Created Linux kernel modules and implemented system calls. Created an Ontology for National Vulnerability Database (NVD) and developed *Ontological Vulnerability Database (OVDB)*. Developed an automated vulnerability assessment tool using SCAP protocol and OVDB.

Associate Educator

Jun 2008 - July 2010

Infosys Technologies Ltd.

Mysore, India

Trained employees of Infosys in variety of computer science and engineering topics such as: Object Oriented Programming (OOP), RDBMS, web technologies, analyzing, designing, and development of *enterprise applications using JEE technology*. Deploying and maintaining applications on Tomcat/JBOSS servers was taught on both Windows and UNIX/Linux platforms. Prepared training material, assessments, conducted classroom training, and provided assistance to students during lab sessions. Conducted *remote training* sessions on building enterprise applications and infrastructure monitoring.

EDUCATION**University of North Texas**

Doctor of Philosophy, Computer Science and Engineering

Master of Science, Computer Science and Engineering

Denton TX

August 2018

December 2014

Jawaharlal Nehru Technological University

Bachelor of Technology, Computer Science and Engineering

Hyderabad India

May 2008

TECHNICAL SKILLS**Systems Development:** C, Go; Intel: TXT, VT-x, VT-d.**Software Development:** Python, Java, Agile methodologies.**Web Development:** HTML5, CSS3, JavaScript, Bootstrap, React.**Courses Development:** Blackboard, Moodle, MS Word, MS PowerPoint, MS Excel.**Cloud Computing:** OpenStack, Xen, Citrix, Docker.**AWARDS & HONORS**Blackhat USA **student scholarship** award for the years 2014, 2015.Annual Computer Security Applications Conference **student conferecneship** award.1st place in **digital forensics** workshop by Sandia National Labs at ACSAC 2013.3rd place in regional level South West **Collegiate Cyber Defense** Competition.18th place in **National Cyber League** (NCL) Midwestern Gold Brackets.**MEMBERSHIPS****Association for Computing Machinery** (ACM) student member.Phi Kappa Phi (PKP) honor society (**top 10%** graduate students).**Founder and President** of Club for Cyber Security and Intelligence (CCSI).Vice President of **Collegiate Entrepreneurship** Organization (CEO).

RESEARCH PUBLICATIONS

- [1] **Srujan Kotikela** (2018) Secure and Trusted Execution for Virtualization Workloads, NT Dissertation Computer Science and Engineering, Denton, Texas.
- [2] **Srujan Kotikela**, Tawfiq Shah, Mahadevan Gomathisankaran, Gelareh Taban (2015) Radium: Race-free On-demand Integrity Measurement Architecture In: International Conference on Privacy, Security, Risk and Trust (PASSAT) ASE.
- [3] **Srujan Kotikela**, Mahadevan Gomathisankaran (2013) Work In Progress : Privacy Against Unlawful Surveillance (PRIUS) In: Annual Computer Security Applications Conference (ACSAC), New Orleans, Louisiana.
- [4] Patrick Kamongi, **Srujan Kotikela**, Mahadevan Gomathisankaran, Krishna Kavi (2013) A methodology for ranking cloud system vulnerabilities In: 2013 Fourth International Conference on Computing, Communications and Networking Technologies (ICCCNT),1-6.
- [5] Patrick Kamongi, **Srujan Kotikela**, Krishna Kavi, Mahadevan Gomathisankaran, Anoop Singhal (2013) VULCAN : Vulnerability Assessment Framework for Cloud Computing In: 2013 IEEE 7th International Conference on Software Security and Reliability (SERE), 218-226.
- [6] Satyajeet Nimgaonkar, **Srujan Kotikela**, Mahadevan Gomathisankaran (2012) CTrust : A framework for Secure and Trustworthy application execution in Cloud computing Academy of Science and Engineering (ASE) Science Journal 1: 4. 152-165.
- [7] **Srujan Kotikela**, Krishna Kavi, Mahadevan Gomathisankaran (2012) Vulnerability Assessment in Cloud Computing In: The 2012 International Conference on Security & Management (SAM 2012) 67-73 CSREA Press.
- [8] Satyajeet Nimgaonkar, **Srujan Kotikela**, Mahadevan Gomathisankaran (2012) CTrust : A Framework for Secure and Trustworthy Application Execution in Cloud Computing In: 2012 International Conference on Cyber Security (CyberSecurity), 24-31.
- [9] **Srujan Kotikela**, Satyajeet Nimgaonkar, Mahadevan Gomathisankaran (2011) POSTER : Virtualization Based Security Framework (vBASE) In: Annual Computer Security Applications Conference (ACSAC), Orlando, Florida.
- [10] **Srujan Kotikela**, Satyajeet Nimgaonkar, Mahadevan Gomathisankaran (2011) Virtualization Based Secure Execution and Testing Framework In: 7th International Association of Science and Technology for Development (IASTED) Parallel and Distributed Computing Systems, Secretariat, B6, Suite 101, 2509 Dieppe Ave. SW, Calgary, AB, Canada T3E 7J9: ACTA PRESS.

GRANTED PATENTS

- [1] Schilling, J. R.; Cunningham, C. C.; Shah, T. M.; **Kotikela, S. D.** (Feb 2019) Detecting Malicious Instructions on a Virtual Machine, US 10/210,324
- [2] Schilling, J. R.; Cunningham, C. C.; Shah, T. M.; **Kotikela, S. D.** (Feb 2019) Detecting Malicious Instructions on a Virtual Machine Using Profiling, US 10/255,432
- [3] Schilling, J. R.; Cunningham, C. C.; Shah, T. M.; **Kotikela, S. D.** (Feb 2019) Extracting and Detecting Malicious Instructions on a Virtual Machine, US 10/210,325
- [4] Schilling, J. R.; Cunningham, C. C.; Shah, T. M.; **Kotikela, S. D.** (Dec 2018) Extracting malicious instructions on a Virtual Machine in a network environment, US 10/157,276

PENDING PATENTS

- [1] Schilling, J. R.; Cunningham, C. C.; Shah, T. M.; **Kotikela, S. D.** (May 2017) Extracting Malicious Instructions on a Virtual Machine, US 15/169,248
- [2] Schilling, J. R.; Cunningham, C. C.; Shah, T. M.; **Kotikela, S. D.** (May 2017) Detecting Malicious Instructions in a Virtual Machine Memory, US 15/169,230