

Shruti Tople

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RESEARCH INTERESTS	Privacy-Preserving Computation, Systems Security, Applied Cryptography, Trusted Computing, Deep Learning and Blockchains.	
PRESENT POSITION	Post-Doctoral Researcher Confidential Computing Group	August 2018 - Now
EDUCATION	<ul style="list-style-type: none">• National University of Singapore, Singapore Ph.D., Computer Science, August 2013 - June 2018<ul style="list-style-type: none">• <i>GPA</i>: 4.57/5• <i>Thesis</i>: Efficient Privacy-Preserving Computation with Trusted Hardware.• <i>Advisor</i>: Prateek Saxena• University of Pune, College of Engineering, Pune (CoEP), India. Bachelor in Information Technology Engineering, Fall 2008 - June 2012<ul style="list-style-type: none">• <i>Thesis</i>: Improving Storage Cloud using Container-based Virtualization• <i>Advisor</i>: Sandeep Patil (IBM Corporation) and Prof. Satish Kumbhar(CoEP)	
AWARDS	<ul style="list-style-type: none">• Research Scholar Fellowship, National University of Singapore, 2013-2018• Dean's Graduate Research Excellence Award, CS Dept. National University of Singapore, 2018	
PROFESSIONAL AND TEACHING EXPERIENCE	<ol style="list-style-type: none">1. Research Internship Microsoft Research, India2. Research Internship Anquan Capital, Singapore3. Teaching Assistant Systems Security (NUS) (CS5231)4. Research Internship National University of Singapore5. Research Internship IBM India Software Lab, Pune, India.6. Summer Internship Cummins India Ltd., Pune, India.	<p>June 2017 - Aug 2017 (3 months)</p> <p>June 2016 - Aug 2016 (3 months)</p> <p>Aug 2015 - Nov 2015 (4 months)</p> <p>Sept 2012 - Aug 2013 (11 months)</p> <p>Nov 2011 - April 2012 (6 months)</p> <p>June 2011 - Aug 2011 (3 months)</p>
CONFERENCE REVIEWS	Program Committee Member for PETS'19, PETS'20, Blockchain'18, Blockchain Workshop at COMSNETS'19. Reviewer for IEEE's Transactions on Dependable and Secure Computing Journal, 2017. External Reviewer for CODASPY'19 Sub-reviewing papers for S&P'14, USENIX'14, S&P'15, USENIX'17, EuroSnP'19 and ICML'19.	

- PUBLICATIONS
1. **Shruti Tople**, Soyeon Park, Min Suk Kang and Prateek Saxena, VeriCount: Verifiable Resource Accounting Using Hardware and Software Isolation ACNS 2018
In the 16th International Conference on Applied Cryptography and Network Security.
 2. Amrit Kumar, Clément Fischer, **Shruti Tople** and Prateek Saxena, A Traceability Analysis of Monero’s Blockchain ESORICS 2017
In the 22nd European Symposium on Research in Computer Security.
 3. **Shruti Tople** and Prateek Saxena, On the Trade-Offs in Oblivious Execution Techniques DIMVA 2017
In the 14th Conference on Detection of Intrusions and Malware & Vulnerability Assessment.
 4. Shweta Shinde, Dat Le Tien, **Shruti Tople** and Prateek Saxena, Panoply: Low-TCB Linux Applications With SGX Enclaves NDSS 2017
In the 24th Annual Network and Distributed System Security Symposium.
 5. Shiqi Shen, **Shruti Tople** and Prateek Saxena, Auror: Defending Against Poisoning Attacks in Collaborative Deep Learning Systems ACSAC 2016
In the 32nd Annual Computer Security Applications Conference.
 6. Yaoqi Jia*, Tarik Moataz*, **Shruti Tople*** and Prateek Saxena, OblivP2P: An Oblivious Peer-to-Peer Content Sharing System USENIX 2016
In the 25th USENIX Security Symposium.
*Lead authors alphabetically ordered.
 7. Xinshu Dong, Zhaofeng Chen, Hossein Siadati, **Shruti Tople**, Prateek Saxena and Zhenkai Liang, Protecting Sensitive Web Content from Client-side Vulnerabilities with CRYPTONs CCS 2013
In ACM Conference on Computer and Communications Security.
 8. **Shruti Tople**, Shweta Shinde, Zhaofeng Chen and Prateek Saxena, AutoCrypt: Enabling Homomorphic Computation on Servers to Protect Sensitive Web Content CCS 2013
In ACM Conference on Computer and Communications Security.
- POSTERS
1. Hoon Wei Lim, Loi Luu, **Shruti Tople** and Prateek Saxena, WeShare: A Coercion-Resistant and Scalable Storage Cloud S&P 2015
In 36th IEEE Symposium on Security & Privacy, 2015
 2. Shweta Shinde, **Shruti Tople**, Deepak Khatayat and Prateek Saxena, PodArch: Protecting Legacy Applications with a Purely Hardware TCB S&P 2015
In 36th IEEE Symposium on Security & Privacy, 2015
- PAPERS UNDER SUBMISSION
1. Shruti Tople, Karan Grover, Shweta Shinde, Ranjita Bhagwan and Ramchandran Ramjee, Privado: Practical and Secure DNN Inference
<https://arxiv.org/abs/1810.00602>

EPRINT

1. **Shruti Tople**, Yaoqi Jia and Prateek Saxena
Constant Latency Read-Only Oblivious RAM
<https://eprint.iacr.org/2018/220.pdf>
2. Yaoqi Jia, **Shruti Tople**, Tarik Moataz, Deli Gong and Prateek Saxena
Robust Synchronous P2P Primitives Using SGX Enclaves
<https://arxiv.org/abs/1810.00602>
3. **Shruti Tople**, Hung Dung, Prateek Saxena and Ee-Chien Chang,
PermuteRam: Optimizing Oblivious Computation for Efficiency
<https://eprint.iacr.org/2017/885.pdf>
4. Hoon Wei Lim, **Shruti Tople**, Prateek Saxena and Ee-Chien Chang,
Faster Secure Arithmetic Computation Using Switchable Homomorphic Encryption
<https://eprint.iacr.org/2014/539.pdf>
5. Shweta Shinde, **Shruti Tople**, Deepak Kathayat and Prateek Saxena,
PodArch: Protecting Legacy Applications with a Purely Hardware TCB
<https://www.comp.nus.edu.sg/shweta24/podarch>.
6. **Shruti Tople**, Ayush Jain and Prateek Saxena,
LeveeFS: Securing Access to Untrusted Filesystem in Enclaved Execution
<http://www.comp.nus.edu.sg/shruti90/papers/leveefs.pdf>

REFERENCES

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Microsoft Research, India