

VARUN CHANDRASEKARAN

PERSONAL INFORMATION	1210 West Dayton Street Madison, WI 53706 Website : http://pages.cs.wisc.edu/~chandrasedkaran/
EDUCATION	University of Wisconsin-Madison, Madison Sep 2016 onwards <i>Doctoral Candidate, Computer Science, Advised by Dr. Suman Banerjee</i> New York University, New York Aug 2014 - June 2016 <i>M.S in Computer Science, Advised by Dr. Lakshminarayanan Subramanian</i> Anna University, India Aug 2010 - May 2014 <i>B.E. in Computer Science and Engineering</i>
AREAS OF INTEREST	<ul style="list-style-type: none">• Networks & Mobile Systems• Security & Privacy• Distributed Computing
PROFESSIONAL EXPERIENCE	Intern, Microsoft Research, Bangalore - Systems & Security Feb 2017 - June 2017 <ul style="list-style-type: none">• Mentor: Dr. Ranjita Bhagwan• Secure Machine Learning Intern, IBM Research, Yorktown Heights - Networks and OS July 2016 - Sep 2016 <ul style="list-style-type: none">• Mentor: Dr. John Tracey, Next Generation Data Centers• Can discuss on request. Intern, AT&T Labs & Research, Middletown - Networks and OS June 2015 - Aug 2015 <ul style="list-style-type: none">• Manager: Matt Szela• Performed feasibility study, Proof of Concept level testing & bench-marking focused on Network Function Virtualization of Packet Routing & Forwarding functions using proprietary software & hardware.• Implemented the same on a white-box, using Software Defined Networking techniques. Intern, Tata Communications, Chennai - Networks and OS Jan 2014 - April 2014 <ul style="list-style-type: none">• Gained a detailed understanding of Software Defined Networks using both Floodlight (Java) and the NOX controller.• Implemented the OpenFlow protocol on Linux mounted on VirtualBox in OSX.• Additionally, developed the structure and implemented a scaled version of SDN for testing and security analysis using Wireshark, Mininet and cbench. Intern, IBM, Bangalore - Database Systems and Web Technologies May 2011 - July 2011 <ul style="list-style-type: none">• Worked on aggregating real-time information to implement an Inventory Management System of computational resources for the Systems and Technology group to use regularly.• Performed periodic maintenance tests to ensure optimal throughput and validated system performance through scaling (LAN vs Wireless) and the TPC-C and OLTP-Bench benchmarking techniques.
PUBLICATIONS	Alphacodes: Usable, Secure Transactions with Untrusted Providers using Human Computable Puzzles <ul style="list-style-type: none">• Ashlesh Sharma, Varun Chandrasekaran, Fareeha Amjad, Dennis Shasha, Lakshminarayanan Subramanian• ACM DEV, November 2016
UNDER SUBMISSION	Secure Mobile Identities <ul style="list-style-type: none">• <i>Research Guide:</i> Dr. Lakshminarayanan Subramanian, New York University• <i>Objective:</i> Decentralized identity authentication. Compact Search: A Search Abstraction for Mobile Devices <ul style="list-style-type: none">• <i>Research Guide:</i> Dr. Lakshminarayanan Subramanian, New York University• <i>Objective:</i> A new paradigm for resource-aware web-search.
MANUSCRIPTS	Maximum Entropy Robust Routing, New York University <ul style="list-style-type: none">• <i>Research Guide:</i> Dr. Lakshminarayanan Subramanian, New York University• <i>Objective:</i> Devising a new multi-pathing mechanism for Internet routing.

Magic Boxes: Digital Anonymity

- *Research Guide:* Dr. Larry Rudolph, Massachusetts Institute of Technology
- *Objective:* To anonymize digital communication and transactions.

ONGOING RESEARCH PROJECTS

Linguistic Obfuscation

- *Research Guide:* Dr. Lakshminarayanan Subramanian, New York University
- *Objective:* To obfuscate user-entered search queries to hinder profiling.

Enhancing Security in Multi-Container, Multi-Tenant Deployments

- *Research Guides:* Dr. Suman Banerjee, Dr. Somesh Jha, University of Wisconsin-Madison
- *Objective:* To prevent privilege migration/escalation in such environments.

Elastic Resource Scaling in Multi-Tenant Environments

- *Research Guide:* Dr. Suman Banerjee, University of Wisconsin-Madison
- *Objective:* To ensure higher utilization rates in data center environments.

GRADUATE TEACHING EXPERIENCE

Networks and Mobile Systems

- Teaching Assistant for course taught by Dr. Lakshminarayanan Subramanian in Spring 2016

Computer Systems Organization

- Teaching Assistant for course taught by Dr. Jinyang Li in Fall 2015

Technology and Economic Development

- Teaching Assistant for course taught by Dr. Lakshminarayanan Subramanian in Spring 2015

AWARDS AND HONORS

- NYU M.S. Thesis/Research Fellowship, Spring 2016
- Selected for the AT&T Student Research Summit, Spring 2016

UNDERGRADUATE RESEARCH EXPERIENCE

Indian Institute of Technology-Madras, Chennai

May 2012 - Jan 2014

- *Research Guide:* Dr. Pandu Rangan Chandrasekaran (Ph.D. IISc, Bangalore)
- Performed detailed analysis on the time complexity of "Maximum Uniquely Restricted Matchings in Interval Graphs".
- Performed a simulation experiment, using Matlab and Java on the application of graph theoretic problems, namely : Traffic Minimization using properties of Interval Graphs.

Chennai Mathematical Institute, Chennai

May 2013 - July 2013

- *Research Guide:* Dr. K.V. Subrahmanyam (Ph.D. TIFR, Bombay)
- Analyzed design and implementation of Support Vector Machine models.
- Performed a comparative study to gauge the efficiency of SVM against other supervised learning models using common data sets.
- Implemented the SVM model to cluster textual stream data from an online source to perform regression analysis and check speed and accuracy.

PROGRAMMING SKILLS

- **Programming Languages:** Java, C, C++, Python, Golang, SQL, Matlab
- **Scripting Languages:** JavaScript, PHP
- **Markup Languages:** XML, HTML, Latex

MISCELLANEOUS

- Participant at
 - New England Security Day 2016, Boston, MA
 - NSDI'17, Boston, MA
- Reviewer for Transactions of Mobile Computing
- Received Travel Grant for
 - OSDI'16, Savannah, GA
 - SecUnity Summer School 2017, Darmstadt, GER

REFERENCES

- Dr. Suman Banerjee, University of Wisconsin-Madison
- Dr. Lakshminarayanan Subramanian, New York University
- Dr. Larry Rudolph, Two Sigma