

Prashant Anantharaman

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Education

Doctor of Philosophy (Ph.D.) in Computer Science – June 2017 –
Dartmouth College, NH, USA.

Research Area: Systems Security

Advisors: Dr. Sean W. Smith and Dr. Sergey Bratus

Master of Science in Computer Science – August 2015 – June 2017
Dartmouth College, NH, USA.

Research Area: Systems Security

Advisors: Dr. Sean W. Smith and Dr. Sergey Bratus

Bachelor of Engineering in Computer Science and Engineering – August 2011 – May 2015.

College of Engineering Guindy, Chennai, India

Research Area: Compilers and Systems

Thesis: Code Compaction in LLVM IR.

TCS Best Senior Thesis Award.

Thesis Advisor: Dr. Arul Siromoney

Experience

SRI International, Menlo Park, CA, USA – Internet-of-Things Security and Privacy Center

June 2016 – September 2016 *Student Associate*. Advisors: Dr. Michael Locasto, Dr. Gabriela Ciocarlie, Dr. Ulf Lindqvist.

Worked on an independent project to build *Language-theoretic security* compliant clients for application layer Internet-of-Things protocols.

Samsung R&D Institute, Bangalore, India – Intelligent Search Team

May 2013 – July 2013

Student Trainee. Advisor: Mohan Sundar B.

Worked on an independent project of designing a graph searching system using Neo4J and Apache Giraph.

Publications

Preprints

P. Anantharaman, M. Locasto, G. Ciocarlie, U. Lindqvist.

"Building hardened Internet-of-Things implementations using Language-theoretic Security"

IEEE Symposium on Security and Privacy – Language-theoretic Security Workshop.

May 2017 (Accepted, To appear)

Conferences and Workshops

2. **P. Anantharaman**, K. Palani, D. Nicol, S.W. Smith.

"I am Joe's Fridge: Scalable Identity in the Internet of Things"

IEEE International Conference on Internet of Things.
December 2016.

1. G. Ramakrishnan, **P. Anantharaman**, and S. Mukherjee.
"Proactive Resource Provisioning Model for Cloud Federation."
International Conference on Distributed Computing and Internet Technology. Springer International Publishing,
January 2016.

Posters

3. **P. Anantharaman**, J. P. Brady, S. Bratus, I. R. Jenkins, M. Millian, D.M. Nicol, K. Palani, E. Reed, S.W. Smith
"Increasing Cyber-Resilience of Large-Scale and Long-Lived Energy Delivery Infrastructure (EDI)"
2nd CREDC Industry Workshop ,Tempe, AZ
March 2017
2. **P. Anantharaman**, D.M. Nicol, K. Palani, E. Reed, S. W. Smith
"Scalable Identity in the Smart Grid"
2nd CREDC Industry Workshop ,Tempe, AZ
March 2017
1. K. Palani, **P. Anantharaman**, D.M. Nicol, S. W. Smith
"Namespace and Cryptographic Complexities in the Smart Grid"
1st CREDC Industry Workshop ,Champaign, IL
March 2016

Teaching Experience

Teaching Assistant for *Programming Languages (COSC 59)*, September 2016– November 2016.

Fall 2016 (1 lecture). Instructor – Dr. Sergey Bratus.

Ruby on Rails Instructor at FSFTN Summer Camp, June 2015.

Number of Participants: 120.

Venue: IIT Madras.

Talks and Presentations

Building vertically hardened Industrial-Control-Systems applications using Language-theoretic security
2nd CREDC Industrial Workshop

Tempe, AZ

March 28th 2017.

Scalability Identity in the Internet of Things

IEEE International Conference on Internet of Things

Chengdu, China

December 18th 2016.

Projects

KeggyFuzzer: Building smart fuzzers from parser combinator input. We build a top-down fuzzer generator.

Kabali: A ruby gem to inspect the YARV structures. Ruby YARV structures and stacks aren't so easy to inspect and comprehend, this gem would give you a step by step description of the modifications in the stack. **Received a citation for this project.**

Sankalan: A ruby gem to make mdb and dtrace interchangeably.

Yalnix: A simple operating system in C. Implemented memory management and all syscalls as a part of the Operating Systems course.

File Sharing Portal: Developed a "Social Network for sharing of Files and Videos". The source code to which can be found on <https://github.com/ProjectAlex/laughing-adventure> . Software(s) used: *Ruby on Rails,mysql*

Khelo: A sports programming language. Developed an interpreter based language as a "Design of Compilers" project. Software(s) used - *Ruby(Lex and Yacc)*

Tamil OCR and Error Correction: This project was funded by "Centre for Technology Development and Transfer, Anna University". Error corrections were made on an OCR'd document. We achieved an accuracy of almost 90%. Software(s) used: *Java,Ruby on Rails, Tesseract OCR*

Guindy Times Website: Developed the website and API for the college news magazine. <http://guindytimes.com>. Software(s) used: *Ruby on Rails, postgresql, Redis*

Kurukshetra : College Tech Fest Website: Developed the website of the college tech fest. Developed the website and the API for the android application. <http://archive15.kurukshetra.org.in>. Software(s) used: *Ruby on Rails, mysql, angularjs*

Programing Environments

Languages: C++, C, Java, Python, Ruby, HTML/CSS

Plaforms: Unix (Linux, Solaris)

Tools: Git version control, Emacs and vim text editors

Databases: Mysql, Postgresql, Oracle

Frameworks: Ruby on Rails, Django, LLVM, Hammer parser combinator

Github account: <https://github.com/prashantbarca>

Selected Fellowships and Awards

50% fee scholarship for first year of masters at Dartmouth College.

TCS Award for Best Senior Thesis – 2015