

# Sharwan Ram

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## EDUCATION

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- **Iowa State University** Ames, IA  
*Visiting Research Scholar* May. 2018
- **Malaviya National Institute of Technology** Rajasthan, India  
*Master of Technology in Computer Engineering; GPA: 3.20 (8.01/10.0)* Aug. 2016 – May 2018
- **Rajasthan Technical University** Rajasthan, India  
*Bachelor of Technology in Computer Science; GPA: 2.48 (62.02%)* Aug. 2011 – June 2015

## EXPERIENCE

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- **Defense Advanced Research Projects Agency (DARPA)** Arlington County, VA  
*Security Analyst* May 2018 - Present
  - **STAC:** Space/Time Analysis for Cybersecurity (STAC) aims to develop new program analysis techniques and tools for identifying vulnerabilities related to the space and time resource usage behavior of algorithms, specifically, vulnerabilities to algorithmic complexity and side channel attacks. I am working as security analyst in the STAC program.

## AWARD AND RECOGNITION

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- **Best Challenge Entry Award** Madrid, Spain  
*Challenge Winner* September 2018
  - **DySDoc3:** DySDoc3 was the third international workshop on Dynamic Software Documentation held in Spain. It was hosted by the IEEE International Conference on Software Maintenance and Evolution (ICSME 2018). The DySDoc3 workshop hosted the First Software Documentation Generation Challenge and we won the best challenge entry award. We created an automated tool which generates On-Demand Context-Specific Documentation of the given software.
- **Recognition from MIT, Red Hat and Microsoft** Cambridge, MA  
*Security Analyst* Jan 2018
  - **Security Analysis of MIT Kerberos:** Kerberos is a strong network authentication protocol based on secret-key cryptography. We detected two vulnerabilities (CVE-2018-5709 and CVE-2018-5710) in Kerberos and reported CVEs to MIT, Microsoft and Red Hat where we got recognition from all of them.

## PROJECTS

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- **DynaDoc:** Automated On-Demand Context-Specific Documentation Generator.
- **PathCounter:** Utility to count paths in a given program without enumeration which helps to measure the complexity of the software
- **ICFG Generator:** Utility to generate Inter-Procedural Control Flow Graph using Atlas Platform developed by EnsoftCorp.
- **Identification of Cryptographic Vulnerabilities and Malware Detection:** An automated system which will test android app without any human interference.
- **Social-Dashboard:** Online Social Network Website like Facebook for submitting Assignments of the students.

## EXTRA CURRICULAR ACTIVITIES

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- **Participant as well as Organizer of various workshops on software security**
  - Introduction to Data Structure and Programming in C by ICT Academy, July 1-10, 2017
  - Managing the Complexity, Security, Safety of Large Software GIAN Course by Prof. Suresh Kothari (USA), September 12-16, 2016
  - Internet Security and Privacy Challenges by Prof. Mouro Conti (Italy), October 24-28, 2016
  - Mobile System Security by Prof. N. Ashokan (Finland), November 21-25, 2016
- **Placement Coordinator at MNIT Rajasthan, India (2016-2018)**