Dheeraj Ramchandani

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SUMMARY

Seeking an internship (starting May 2020) in the domain of software development. Graduate Student at Georgia Tech (European Campus). Experienced in C, C++, Linux with over 3 years of work experience in Samsung Bangalore. Proficient in developing quality software with respect to data structures and algorithms.

EDUCATION

MS in Computer Engineering - Georgia Institute of Technology   *Aug 2019 - May 2021*
Coursework **:** Computer Vision, Machine Learning for Robotics, Cryptography.

B-Tech in ECE - National Institute of Technology Warangal India   *June 2012-April 2016*
Coursework: Computer Architecture, Data structures and Algorithms, Digital Image Processing.   GPA (8.2/10)

EXPERIENCE

Samsung Semiconductor India Research (*Senior Engineer***)**   *June 2016-July 2019*

- **LPDDR4 IO-MARGIN:** Designed and developed an IO-MARGIN software in C which analyzed the effects of timing parameters (tCWL, tRC, etc) on DDR4 performance and selected the optimal data set.
- **CPGC (Hardware BIST) :** Understood and implemented memory testing algorithms (moving inversion) using CPGC and increased the efficiency by 50% as compared to system testing.
- **Linux Hacking:** Hacked a linux system by manipulating its page tables using Row Hammering (DRAM reliability issue) and implemented Row Hammering at firmware level using CPGC.
- **Linux Device Driver:** Implemented a device driver to configure DRAM memory controller using PCI protocol via reading and writing the configuration registers.
- **DRAM Testing:** Understood DDR4 architecture and implemented efficient algorithms such as Moving Inversion, Memtest86 in C language to detect functional errors (Stuck at Fault, Coupling Faults) in it.
- **Increased the output by 40%** by developing a Trace 32 script which automated the DDR4 testing process.
- Leveraged knowledge in **Git, Jira, Linux, Logic Analyzer, data structures,** Linux, programming and debugging in C++ using visual studio, GDB etc.

PROJECTS:

Smart chair for Old Age people   *Jan 2015 -Dec 2015*

- Designed and implemented smart chair for old age and disabled people with home automation and calling facility. This reduced their dependency on other people.

Mobile Payment App Analysis :   *May 2015 - June 2015*

- Analyzed a mobile payment apps for security vulnerabilities concentrated on communication protocols used, authentication and cryptographic implementation.
- Used Mallodroid and Qualys SSL test to check for certificate validation and end point vulnerabilities.
- Manual analysis of the code to check for data flows, information leakage and permissions.

AWARDS & LEADERSHIP

- Presented tech talks about Cold Boot attacks on DRAM and Cryptocurrencies to over 150 people.
- Tutored Junior Students at HACKATHON 2015 (organized by Lakshya Foundation and NITW for solving social issues) on problem-solving and debugging hardware issues.
- **Campus Ambassador from Samsung**, mediated between the college and company regarding placements, helped students with the interview process.
- **Felicitated by Shri Ravi Shankar Prasad (Minister of Electronics & Information technology)** for contribution to Digital India.

TECHNICAL SKILLS

Programming:	**(over 5000 lines)** C/C++ (Algorithms,Data structures), Python **(over 1000 lines)** (HTML, CSS)
Softwares:	OpenCV, numpy, ROS, Visual Studio, Source Insight, Arduino, Latex, Git, ctags, cscope.
Certifications:	**CompTIASecurity+, Online_courses (MOOC)**
Languages:	English (Full professional proficiency)