IEEE Orlando Section Monthly

Vol. 46, No. 10 - November 2013

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Section/Society Chapter/Affinity Group Events

- Nov. 5 - IEEE Computer Society Orlando Chapter Meeting: Verifying Dynamic Taint Analyzers
- Nov. 12 - Executive Committee Meeting
- Nov. 12 - IEEE Orlando Section Consultants' Network Meeting

Section News

- Call for Nominations for 2014 Section Officers - Deadline: Nov. 11
- STEAM Rocks! 6th Grade Event Dates: Nov. 1st
- Part time STEM Program Assistant
- Call for Volunteers for Chapter Officers and Committee Officers

Report/Newsletters

- IEEE Orlando Section Monthly - November 2013: HTML - PDF
- Slides From John Lau's Technical Lecture To IEEE Orlando Section - 01 October 2013
- IEEE-USA Consultants Newsletter
- Fall 2013 edition of the Region 3 newsletter
- IEEE USA 2013 Annual Meeting Highlights: PPTX - PDF

Employment Assistance

- Positions Wanted

IEEE Conferences/Annual Meetings/Events

- June 6 - WAMICON 2014

Other IEEE News/Events

- Refer a Colleague, Get Great Merchandise
- IEEE Member Benefits Bulletin: October Edition
- IEEE-USA's Free E-Books to Members Prove Engineers Can Write & Highlight Innovation
- IH-1B Increase on Congress' Agenda

IEEE Computer Society Orlando Chapter Meeting: "Verifying Dynamic Taint Analyzers"

Speaker: Dr. Lok Yan from the Air Force Research Laboratory (Dr. Yan is not representing the U.S. government in any manner.)

Biography: Lok Yan recently received his Ph.D. in Computer and Information Science and Engineering in May 2013 from Syracuse University under the advisement of Prof. Heng Yin. He holds a B.S. in Computer Engineering and M.S. in Electrical Engineering both from Polytechnic University (now Polytechnic Institute of NYU/NYU-Poly). Lok is currently employed at the Air Force Research Laboratory, Information Directorate in Rome, NY as a Computer Engineer. He is also an adjunct faculty at NYU-Poly and teaches the online section of Information Security and Privacy, also known as Computer Security. He is also a contributor to the DECAF/DroidScope open source dynamic analysis platform (http://code.google.com/p/decaf-platform).

Abstract: Taint analysis (also known as Dynamic Information Flow Tracking) is a program analysis technique that is designed to reveal data and control dependencies in programs. The central idea is simple. We label data of interest as tainted at the beginning of execution and propagate the taint to other data as execution continues until an event of interest occurs. While simple, the concept can be quite powerful. The technique has been used to identify stack smashing attacks ("is the return address being overwritten by user-input?"), malware unpacking behavior ("is the code being executed a function of the sample's binary executable?"), path exploration ("which data variables affect the outcome of this branch condition?"), and others. Unsurprisingly, the technique has been implemented in many different ways, each with their own advantages and disadvantages. Surprisingly though, there hasn't been much work in understanding the correctness of the implementations themselves. In this talk, we will describe our approach to formally analyze taint analyzers. This talk will be given from an applied perspective and not a basic research/theory perspective. To put it differently, we will describe how we used currently available formal analysis tools to verify taint analyzers. We will first describe the basic motivations and need for a more fundamental understanding of taint analysis. We then briefly describe our formal model and what the fundamental tradeoffs between analysis efficiency and correctness are. Given these basic definitions, we then present our efforts in and the overall process of designing and implementing DECAF, a new taint analysis platform that is (mostly) correct by construction. DECAF is built upon the QEMU system emulator and propagates taint (one label per bit of data) through TCG-IR (Tiny Code Generator - Intermediate Representation). We will also describe how we verified DECAF's taint analysis implementation by

comparing its taint analysis results with a reference implementation built on CMU's BAP (Binary Analysis Platform) and SMT (Satisfiability Modulo Theories) solvers.

Date: Tuesday November 5, 2013

Time: 11 am-noon

Place: UCF, Harris Engineering Center Conference Room 450

Cost: Free to all IEEE members and Non-IEEE members

Contact: Dr. Sumit Kumar Jha, Computer Science Division, College of Engineering and Computer Science, University of Central Florida, jha@eecs.ucf.edu (Please contact the host for directions or on-campus parking permits.)

Website: www.ieee.org/orlando

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IEEE Orlando Section Executive Committee Meeting

Date: Tuesday, November 12, 2013

Time: 6:30 - 7:00 pm - Social and Refreshments; 7:00 - 8:00 pm Executive Committee Meeting

Place: Orlando Business Development Center, District 2 (affiliated with the UCF and the S.B.A.) at 3218 East Colonial Drive, Suite #G, Orlando, FL 32802

Directions: In Herndon Plaza just east of Maguire Blvd. This is the shopping center across Colonial Drive from Fashion Square. It is on the west end of the building, around the building at the Southwest corner from the HH Gregg entrance.

Cost: Free to all IEEE members and Non-IEEE members

RSVP: Mike Orlovsky, mcorlovsky@ieee.org, tel. 410.979.0476 (Cell)

Website: www.ieee.org/orlando

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IEEE Orlando Section Consultants' Network Meeting

Date: Tuesday, November 12, 2013

Time: Following Executive Committee Meeting (Approximately 8:00 P.M.)

Topic: "Power Grid Engineering" - presenting the challenges of networking in the power systems industry, along with best practices in finding a position before and after graduation.

Speaker: Mr. Andre Uribe, Vice President of Business Development and Co-founder of PGE.

Place: Orlando Business Development Center, District 2 (affiliated with the UCF and the S.B.A.) at 3218 East Colonial Drive, Suite #G, Orlando, FL 32802

Directions: In Herndon Plaza just east of Maguire Blvd. This is the shopping center across Colonial Drive from Fashion Square. It is on the west end of the building, around the building at the Southwest corner from the HH Gregg entrance.

Cost: Free to all IEEE members and Non-IEEE members

Contact: Dr. Michael Hassan, h.hassan@ieee.org, Consultants' Network

Website: www.ieee.org/orlando

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Call for Nominations for 2014 Section Officers

The Orlando Section elects officers for a term of one year beginning January 1st. This year's Nomination Committee formed by Dr. Xun Gong (xun.gong@ucf.edu), Dr. Donghui Wu (donghui.wu@ieee.org), and Mr. Joe Juisai (joe@juisai.name) will be accepting nominations for Section Officers (Chair, Vice Chair, Secretary and Treasurer). Nominations must be submitted in writing to the Nominations Committee on or before November 11th, 2013.

The Section membership may make a nomination for new Section Officers by submitting qualify petitions. A qualify petition shall meet the following criteria:

- Specify the office.
- Bear the signature of at least 1% of the voting Section members.
- Contain statement of the nominee's consent to serve.
- State nominee's qualification and biography.
- Be delivered to the Section Nominations Committee on or before November 11th, 2013 by 5:00 PM

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STEAM Rocks! 6th Grade Event Dates

These 2 STEAM (science-technology-engineering-art-math) Rocks! 6th Grade event dates are official! Our target audience will be 6th graders involved in the Boys & Girls Clubs of Central Florida After School Zone.

Simply show up at the appointed time…you will be handed a T-shirt to pop on so that students may easily identify you as one of our "STEAM Rocks!" volunteers. We will be providing students with the hands on activities. All that you will need to bring is a willingness to help out, a positive attitude, and a smile!

Friday, November 1st , 4 PM to 6 PM

Corner Lake Middle School
1700 Chuluota Road, Orlando, FL 32820
Contact on site: Shannon Kassim and Suzanne Lawe

Register at the link below: https://docs.google.com/spreadsheet/viewform?fromEmail=true&formkey=dDhuWmFnZmp3WXdTQXdMRG5zbF96Znc6MQ

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Part time STEM Program Assistant

A great opportunity for our IEEE members to powerfully give back to our community and if you wear your IEEE T-shirt while there, you will help us to better market IEEE around the Central Florida area!

Part time STEM Program Assistant for the Boys & Girls Clubs After School Zone :

http://www.bgccf.org/wp-content/uploads/2013/08/program-assistant-stem.pdf

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IEEE Orlando Section Calendar

IEEE Orlando Section Calendar

Today | October 2013 | Print | Week | Month | Agenda

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	Oct 1 6:30pm ExCom Mt 8pm CPMT Mtg	2	3 AESS Technical	4 MTT/AP Mtg	5
6	7	8	9	10	11	12
13	14	15	16 Sr Membership	17	18	19
20	21	22	23	24	25	26 Awards Banquet
27	28	29	30	31	Nov 1	2

Events shown in time zone: Eastern Time

Google Calendar