System and IoT Security (Mobile Security)

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System and IoT Security Seminar

– Topics and Procedure –

Summer Term 2019

Overview of Topics

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#	Title	Supervisor
1	Leaking Processors and Dripping Caches: On Microarchitectural Side Channels	Ghada Dessouky
2	I Know What You Cached Last Time: How Secure is Your Cache?	Ghada Dessouky
3	Catch Me if You Can: The Challenges in Detecting Hardware Bugs	Ghada Dessouky
4	Application Debloating for Security	Patrick Jauernig
5	Recent Advances in Dynamic Analysis	Patrick Jauernig
6	Forget me not: Security of non-volatile processors for IoT devices	Shaza Zeitouni
7	On Safety First (and Security Second) in Time-Critical Systems	Ferdinand Brasser
8	IoT Botnets	Thien Duc Nguyen
9	Poisoning Federated Learning Attacks	Thien Duc Nguyen
10	Side-channel defenses for SGX	Tommaso Frassetto

Overview of Topics

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#	Title	Supervisor
11	Decentralized Federated Machine Learning via Distrubted Ledger Technologies (DLTs)	Hossein Fereidooni
12	Recent techniques in cyber deception	Markus Miettinen
13	IoT Honeypots	Markus Miettinen

Procedure of Topic Selection

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DEADLINE: 07.05.2019, 23:59

Web page: https://www.informatik.tu-darmstadt.de/systemsecurity/teaching_sys/seminars_sys/system_iot_security_2019/system_iot_security_2019.en.jsp

- Send us your top-3 preferred topics by e-mail

- If we haven't received any e-mail from you until 07.05.2019, 23:59, we will assign an available topic to you
- Assigned topics will be notified within 1-2 days after Deadline
- Remember to register for the seminar also in TUCAN!

What We Expect

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- **Self-Motivated and Reliable Students**
  - You have to contact your supervisor, not vice versa
- **Your seminar work consists of two parts**
  - Writing a paper (70% of end grade)
  - Presenting your work in an oral presentation (30% of end grade). Note that your talk and slides will be evaluated.

Organizational Matters

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- **Web:** https://www.informatik.tu-darmstadt.de/systemsecurity/teaching_sys/seminars_sys/system_iot_security_2019/system_iot_security_2019.en.jsp
- **Email:**
  - hossein.fereidooni@trust.tu-darmstadt.de
  - markus.miettinen@trust.tu-darmstadt.de

- **Submission Format of Seminar Paper**
  - LaTeX template available on web page
  - Your text should be at most 6 pages
- **Submission Format of Presentation**
  - Your are free to use PowerPoint, LaTeX, …
- **Language: English** (both paper and presentation)

General structure

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- **Introduction**
- **Motivation:** why is the topic relevant?
- **Background**
- **Recent Contributions:** what are recent relevant contributions?
- **Evaluation/Comparison** (depending on topic)
- **Conclusion**
- **References**

Fixed Deadlines

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- **Submission Deadline:**

  Friday 09.08.2018, 23:59

  - Submit the final version of your seminar paper and your slides by e-mail to your supervisor
  - Include all source files

Fixed Deadlines

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- **Closing Date for cancelling the seminar is 09.06.2019**
- **If you cancel your participation, please remember to do so also in the TUCAN system!**

Oral Presentation

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We will probably arrange two days (depending on the number of students)

- Proposal: mid-August and mid-September
- **All** participants have to be present

Your Presentation

- Each of you will be assigned a 30 minutes time slot
- 25 minutes are reserved for your talk, 5 minutes for discussion and questions

Proposed Schedule

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- **Until 17.05.2019**
  - Contact your supervisor and arrange an appointment. Your supervisor will provide you the basic literature
- **Until 14.06.2018**
  - Read the provided literature, search for additional literature
  - Agree with your supervisor on the basic structure of your seminar paper

Proposed Schedule

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- **Until 05.07.2019**
  - Provide a first draft of your seminar work structure to your supervisor for feedback and suggestions
- **Until 03.08.2019**
  - Provide a first draft of your presentation to your supervisor for proof-reading
  - In parallel, improve your paper constantly
- **DEADLINE: 09.08.2019 23:59**
  - Submit the final version of your work (paper, slides, other) to your supervisor

QUESTIONS?