

# Dimitrios Karnikis

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## Interests

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Trusted Execution Environments (e.g. Intel SGX, Arm TrustZone), High-Level Languages (e.g. Javascript, Lua), Security, Android OS, Operating and Distributed Systems

## Education

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### Master of Science (MSc) student in Computer Science

University of Crete, Greece

February 2019 – February 2021(expected)

### Bachelor of Science (BSc) in Computer Science

University of Crete, Greece

Sept 2013 – November 2018

## Work Experience

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### DiSCS Laboratory – FORTH-ICS

◦ Undergraduate research fellow

**Intel SGX, Android**

November 2016 – February 2019

### DiSCS Laboratory – FORTH-ICS

◦ Postgraduate research fellow

**Intel SGX, Arm Trustzone**

February 2019 – Ongoing

## Projects

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### ◦ Andromeda Framework (Bachelor Thesis)

Ported Intel SGX to Android x86 ecosystem. Integrated Intel SGX technology in Android KeyStore

### ◦ LuaGardia: A Confidential Computing Framework for TEEs (Master Thesis)

Ported the Lua interpreter in SGX enclaves enabling dynamic code execution of legacy Lua applications.

### ◦ Distributed Code Execution on Javascript atop of TEEs (OnGoing)

Dynamic code distribution on Intel SGX nodes that are deployed on the cloud using a Javascript interpreter

### ◦ Leveraging Arm TrustZone on mobile devices using Lua Language (OnGoing)

Implementation and integration of the Lua interpreter on Trusty TEE

## Publications

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### ◦ An Enclave Assisted Snapshot-based Kernel Integrity Monitor

Dimitris Deyannis, *Dimitris Karnikis*, Giorgos Vasiliadis, Sotiris Ioannidis

EdgeSys '20: Proceedings of the 3rd ACM International Workshop on Edge Systems, Analytics and Networking

### ◦ The Million Dollar Handshake: Secure and Attested Communications in the Cloud

Nikolaos Chalkiadakis, Dimitris Deyannis, *Dimitris Karnikis*, Giorgos Vasiliadis and Sotiris Ioannidis

Proceedings of the 2020 IEEE CLOUD 2020. October 2020

### ◦ Andromeda: A Trusted Execution Framework for Android Based on Secure Enclaves

*Dimitris Karnikis*, Sotiris Ioannidis

ACM Student Research Competition Poster Session, Parallel Architectures and Compilation Techniques (PACT 2018), Cyprus 2018

## Honors & Awards

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- **November 2019 – Ongoing: Postgraduate Scholarship**  
Scholarship by the Institute of Computer Science, FORTH - Hellas
- **November 2017 – February 2019: Undergraduate Scholarship**  
Scholarship by the Institute of Computer Science, FORTH - Hellas
- **Best Undergraduate Poster Award at ACM SRC, PACT 2018, Cyprus**

## Advanced Technical Skills

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- **Programming:** C, C++, Lua, Javascript, Java
- **Tools:** Git, QEMU, GDB, Latex, Gnuplot
- **Operating Systems:** Linux, Windows, Android
- **Trusted Execution Environments:** Intel SGX, Arm TrustZone