CURRICULUM VITAE

Alexios Voulimeneas

Nationality: Greek
Email: alex.voulimeneas@kuleuven.be
Twitter: @systemsgreek
Website: https://alexios-voulimeneas.github.io/
Languages: Greek (native), English (fluent), German (basic)

Research Interests

Cyber Security: software diversity, memory safety, sandboxing, compartmentalization, multi-variant execution, exploits, defenses

Operating Systems: kernel development, networking, debugging, virtualization, application monitoring, heterogeneous computing, fault-tolerance, reliability, record/replay

Software Protection: anti-tampering, integrity checking, reverse engineering

Education

PhD in Computer Science 2020
University of California, Irvine
Advisor: Professor Michael Franz
Thesis Topic: Building the Next Generation of Security Focused NVX Systems: Overcoming Limitations of N-Variant Execution

MSc in Computer Science 2017
University of California, Irvine
GPA: 3.985/4

Diploma in Informatics (4-year degree) 2012
Athens University of Economics and Business (AUEB)/Department of Informatics, Athens
GPA: 9.1/10 (top 0.67%)
Advisor: Professor George Xylomenos
Thesis Topic: Towards an Error Control Scheme for a Publish/Subscribe Network

Research Experience

Postdoctoral Scholar 2020 – Present
KU Leuven
I work with Professor Stijn Volckaert in the imec-DistriNet research group at KU Leuven's - Technology Campus in Ghent, Belgium. I conduct research, write papers and project proposals, and supervise and evaluate students.

Graduate Research Assistant 2015 – 2020
University of California, Irvine
I worked with Professor Michael Franz in the Secure Systems Lab at the Donald Bren School of Information and Computer Sciences. I conducted research, and I wrote papers and project proposals.

Visitor Scholar Fall 2019
KU Leuven

Undergraduate and Graduate Researcher 2011 – 2014
Mobile Multimedia Laboratory/AUEB

Industry Experience

Software Engineering Intern Summer 2019
Apple Inc.

Research Assistant Intern Summer 2017
Oracle Labs

Hellenic Army (mandatory military service) 11/2014 – 08/2015
Research and Informatics Directorate

C and JAVA Software Engineer Intern Summer 2012
NCSR Demokritos

Publications

Conference/Journal/Workshop Publications

You Shall Not (by)Pass! Towards Secure, and Fast PKU-based Sandboxing. A. Voulimeneas, J. Vinck, R. Mechelinck, and S. Volckaert. *In European Conference on Computer Systems (EuroSys 2022). **[42 papers accepted out of 162 submissions = 25.9%]***

Sharing is Caring: Secure and Efficient Shared Memory Support for MVEEs. J. Vinck, B. Abrath, B. Coppens, **A. Voulimeneas,** B. De Sutter, and S. Volckaert. *In European Conference on Computer Systems (EuroSys 2022). **[42 papers accepted out of 162 submissions = 25.9%]***

dMVX: Secure and Efficient Multi-Variant Execution in a Distributed Setting. A. Voulimeneas, D. Song, P. Larsen, M. Franz, and S. Volckaert. *In European Workshop on Systems Security (EuroSec 2021)*

Distributed Heterogeneous N-Variant Execution. A. Voulimeneas, D. Song, F. Parzefall, Y. Na, P. Larsen, M. Franz, and S. Volckaert. *In Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA 2020). **[13 papers accepted out of 45 submissions = 28.9%]***

Secure and Efficient Application Monitoring and Replication. S. Volckaert, B. Coppens, **A. Voulimeneas,** A. Homescu, P. Larsen, B. De Sutter, and M. Franz. In *USENIX Annual Technical Conference (ATC 2016). **[47 papers accepted out of 266 submissions = 17.6%]***

A Reliable Multicast Transport Protocol for Information-Centric Networks. C. Stais, G. Xylomenos, and **A. Voulimeneas**. *In Journal of Network and Computer Applications (JNCA 2014)*

Towards an Error Control Scheme for a Publish/Subscribe Network. C. Stais, **A. Voulimeneas**, and G. Xylomenos. *In International Conference on Communications (ICC 2013)*

Theses

Building the Next Generation of Security Focused NVX Systems: Overcoming Limitations of N-Variant Execution. A. Voulimeneas. PhD Thesis, 2020.

Towards an Error Control Scheme for a Publish/Subscribe Network. A. Voulimeneas. BSc Thesis, 2012.

Funding

HONEY-MON: Cyber Deception via N-Variant Execution ONR (2021-2024)
Co-author of a proposal at UC Irvine.
With Michael Franz, Per Larsen, Stijn Volckaert, David Gens, Adrian Dabrowski.
Award Amount: +/- 1M $ (with a possible option to +/- 1.65M $)

Teaching Experience

Teaching Assistant Winter 2017
ICS 6B: Boolean Algebra and Logic
University of California, Irvine

Reader Spring 2016
ICS 46: Data Structure Implementation and Analysis
University of California, Irvine

Lab Assistant Summer 2010
Computational Mathematics
Athens University of Economics and Business

Supervision and Evaluation

PhD Students
Karel Dhondt (since 2018, @ KU Leuven)
Jonas Vinck (since 2019, @ KU Leuven)
Ruben Mechelinck (since 2019, @ KU Leuven)
Adriaan Jacobs (since 2021, @ KU Leuven)
Alicia Andries (since 2022, @ KU Leuven)
André Rösti (since 2022, @ UCI)

MSc Students
André Rösti (Research Assistant since 2020, @ UCI. Graduated 2022)
Adriaan Jacobs (Master Thesis since 2020, @ KU Leuven. Graduated 2021)
Thesis Topic: Combating address-sensitive behavior in MVEEs
Michael Poker (Master Thesis since 2021, @ TU Braunschweig)
Thesis Topic: Techniques for Fast-Forwarding Execution State to Synchronize Software Instances in an MVEE

Professional Scientific Activities

Paper Review and Artifact Evaluation

(EuroSys) European Conference on Computer Systems, Program Committee [2023]
(ASIACCS) ACM ASIA Conference on Computer and Communications Security [2023]
(ESORICS) European Symposium on Research in Computer Security [2022]
(PLDI) ACM SIGPLAN Conference on Programming Language Design and Implementation, Artifact Evaluation Committee [2022]
(EuroSys) European Conference on Computer Systems, Artifact Evaluation Committee [2022]
(USENIX Security) USENIX Security Symposium, Artifact Evaluation Committee [2022]
(EuroSys) European Conference on Computer Systems, External Reviewer [2021, 2022]
(ROOTS) Reversing and Offensive-oriented Trends Symposium, Program Committee [2020, 2021]
(OSDI) USENIX Symposium on Operating Systems Design and Implementation, Artifact Evaluation Committee [2020]
(S&P) IEEE Symposium on Security and Privacy, Student Program Committee [2018]

Conferences Attended (+ = I gave a presentation)

(EuroSys) European Conference on Computer Systems [Attended in 2022+]
(NDSS) Network and Distributed Systems Security Symposium [Attended in 2016, 2017, 2018]
(S&P) IEEE Symposium on Security and Privacy [Attended in 2016]
(CCS) ACM Conference on Computer and Communications Security [Attended in 2016]
(DIMVA) Conference on Detection of Intrusions and Malware & Vulnerability Assessment [Attended in 2020+]

(EuroSec) European Workshop on Systems Security [Attended in 2020+]

Talks

You Shall Not (by)Pass! Practical, Secure, and Fast PKU-based Sandboxing
Invited Talk @ Intel Labs, Online, May 2022

Distributed Heterogeneous N-Variant Execution
Invited Talk @ DRADS DistriNet Workshop, Leuven, Belgium, July 2021

Redundant execution and Lightweight Monitoring for Security and Performance
Invited Talk @ Mobile Multimedia Laboratory (MMlab), AUEB, Athens, Greece, June 2019

Industry and Graduate Studies Opportunities in Greece, Europe, and USA
Invited Talk @ AUEB, Athens, Greece [2015, 2016, 2017, 2019, 2021]

Awards, Grants, and Distinctions

EuroSys Distinguished Reviewer Artifact Award	2022
ACM CCS Student Travel Grant	2016
IEEE S&P Student Travel Grant	2016
ICS Dean's Award, University California, Irvine	2015
Scholarship for Graduate Studies, Latsis Foundation	2013
Scholarship for Graduate Studies, Foundation for Education and European Culture	2013
Valedictorian Graduate, Athens University of Economics and Business	2012