CURRICULUM VITAE
Alexios Voulimeneas

Nationality: Greek
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Languages: Greek (native), English (fluent), German (basic)

Research Interest

Cyber Security: software diversity, memory safety, sandboxing, application 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

Doctor of Philosophy (PhD), Computer Science   2020
University of California, Irvine
Advisor: Prof. Michael Franz
Dissertation Title: Building the Next Generation of Security Focused
NVX Systems: Overcoming Limitations of N-Variant Execution.

M.S, Computer Science   2017
University of California, Irvine

Degree in Informatics · 4-year curriculum   2012
Athens University of Economics and Business (AUEB)/Department of Informatics, Athens
Advisor: Prof. George Xylomeneos
Dissertation Title: Towards an Error Control Scheme for a Publish/Subscribe Network

Research Experience

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

Graduate Research Assistant   2015 – 2020
University of California, Irvine
I worked with Prof. Michael Franz in the Secure Systems Lab at the Donald Bren School of Information & 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 & Informatics Directorate

C & 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

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

A. Voulimeneas. "Towards an Error Control Scheme for a Publish/Subscribe Network". 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 & 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 2020, @ KU Leuven)
Jonas Vinck (since 2020, @ KU Leuven)
Ruben Mechelinck (since 2020, @ KU Leuven)
Adriaan Jacobs (since 2021, @ KU Leuven)
Alicia Andries (since 2022, @ KU Leuven)

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

Professional Scientific Activities

Paper Review and Artifact Evaluation

(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]
(USENIX OSDI) USENIX Symposium on Operating Systems Design and Implementation, Artifact Evaluation Committee [2020]
(IEEE 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+]

Presentations

Alexios Voulimeneas. "Distributed Heterogeneous N-Variant Execution." DRADS @ KU Leuven, Leuven, Belgium, July 2021.

Alexios Voulimeneas. "Redundant execution and Lightweight Monitoring for Security and Performance." Invited talk @ Mobile Multimedia Laboratory (MMlab), AUEB, Athens, Greece, June 2019.

Alexios Voulimeneas. "Industry and Graduate Studies Opportunities in Greece, Europe, and USA." Invited talk @ AUEB, Athens, Greece [2015, 2016, 2017, 2019, 2021].

Distinctions

EuroSys Distinguished Reviewer Artifact Award	2022
ACM CCS student travel award	2016
IEEE S&P student travel award	2016
ICS Dean's Recruitment Inceptive • University California, Irvine	2015
Scholarship for graduate studies • Latsis Foundation	2013
Scholarship for graduate studies • Foundation for Education and European Culture	2013
Valedictorian Graduate of September 2012 • Athens University of Economics and Business	2012