Nick Giannarakis

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EDUCATION

PRINCETON UNIVERSITY | PhD in Computer Science
September 2015 - August 2020 (expected) | Princeton, NJ
Thesis: Language Abstractions for Network Verification
Advisor: David Walker

ECOLE NORMALE SUPERIEURE DE CACHAN | Masters of Research in Computer Science (MPRI M2)
September 2014 - August 2015 | Paris, France
Thesis: Release-Acquire on Power processors
Advisor: Viktor Vafeiadis (MPI-SWS)

NATIONAL TECHNICAL UNIVERSITY OF ATHENS | Diploma of Electrical and Computer Engineering
September 2018 - August 2014 | Athens, Greece
Thesis: Formal Verification of a Control-Flow Integrity Mechanism Based on Tags
Advisor: Catalin Hritcu (INRIA-Paris)

WORK EXPERIENCE

AMAZON.COM | Applied Scientist Intern
May 2019 – August 2019 | Seattle, WA
Worked on SMT-based verification of routing policies in AWS datacenters.

MICROSOFT RESEARCH | Research Intern
June 2017 – September 2017 | Seattle, WA
Worked on Vale* a DSL for implementing and verifying assembly-level cryptographic primitives, and F* a general-purpose program verifier.

MAX-PLANCK INSTITUTE FOR SOFTWARE SYSTEMS | Research Intern
April 2015 – September 2015 | Kaiserslautern, Germany
Worked on the relaxed memory semantics of Power processors.

INRIA PARIS | Research Intern
April 2014 – September 2014 | Paris, France
Developed a (machine-checked) proof of correctness of a tag-based reference monitor for Control-Flow Integrity.

PUBLICATIONS

[1] **N. Giannarakis**, D. Loehr, R. Beckett, and D. Walker. NV: An intermediate language for verification of network control planes. In *Proceedings of the 41st ACM SIGPLAN Conference on Programming Language Design and Implementation*, PLDI 2020.

[2] R. Beckett, **N. Giannarakis**, D. Loher, and D. Walker. NV: An intermediate language for network verification. In *Proceedings of the ACM SIGCOMM 2019 Workshop on Networking and Programming Languages*, NetPL'19.

[3] **N. Giannarakis**, R. Beckett, R. Mahajan, and D. Walker. Efficient verification of network fault tolerance via counterexample-guided refinement. In *International Conference on Computer Aided Verification*, CAV 2019.

[4] G. Martínez, D. Ahman, V. Dumitrescu, **N. Giannarakis**, C. Hawblitzel, C. Hritcu, M. Narasimhamurthy, Z. Paraskevopoulou, C. Pit-Claudel, J. Protzenko, T. Ramananandro, A. Rastogi, and N. Swamy. Meta-f*: Proof automation with smt, tactics, and metaprograms. In *Programming Languages and Systems*, ESOP 2019

[5] A. Fromherz, **N. Giannarakis**, C. Hawblitzel, B. Parno, A. Rastogi, and N. Swamy. A verified, efficient embedding of a verifiable assembly language. *Proc. ACM Program. Lang.*, POPL 2019.

[6] O. Lahav, **N. Giannarakis**, and V. Vafeiadis. Taming release-acquire consistency. In *Proceedings of the 43rd Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*, POPL 2016.

[7] A. A. De Amorim, M. Dénès, **N. Giannarakis**, C. Hritcu, B. C. Pierce, A. Spector-Zabusky, and A. Tolmach. Micro-policies: Formally verified, tag-based security monitors. In *2015 IEEE Symposium on Security and Privacy*, IEEE S&P 2015.

TEACHING EXPERIENCE

PRINCETON UNIVERSITY | Teaching Assistant

2018 Functional Programming
2017 Advanced Programming Techniques

ACADEMIC SERVICE

2020 PLDI Artifact Evaluation Committee
2018 POPL Artifact Evaluation Committee
2017 POPL Artifact Evaluation Committee

AWARDS

2015 Princeton University Graduate Fellowship
2015 Stanley J. Seeger Hellenic Studies Prize
2014 Labex Digicosme MPRI scholarship