LEONIDAS LAMPROPOULOS

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EDUCATION AND WORK EXPERIENCE

University of Maryland, College Park *July 2020 - present*
Assistant Professor
Department of Computer Science
PLUM lab

University of Maryland, College Park and University of Pennsylvania *2018 - 2020*
Victor Basili Postdoctoral Fellow (Joint Postdoc)
PLUM lab and PLClub - Programming Languages Groups
Supervised by Michael Hicks and Benjamin C. Pierce

University of Pennsylvania *2012 - 2018*
PhD in Computer Science
Title: Random Testing for Language Design
Advisor: Benjamin C. Pierce

Microsoft Research, Cambridge *Summer 2015*
Research Internship
Formal Methods for Neural Network Verification
Advisors: Aditya Nori and Dimitros Vytiniotis

National Technical University of Athens *2007 - 2012*
Diploma in Electrical Engineering and Computer Science
Thesis Advisor: Kostis Sagonas

FUNDING

NSF:SHF:CAREER: Fuzzing Formal Specifications 582.352$
2022-2027

NSF:SHF:Medium: Efficient and Trustworthy Proof Engineering 539.956$
with Milos Gligoric. 2021-2024

NSF:SHF:Medium: Bringing Python up to Speed 374.390$
with Emery Berger, Michael Hicks, and Benjamin C. Pierce. 2020-2023

BOOKS

QuickChick: Property-Based Testing in Coq *2018*
Leonidas Lampropoulos and Benjamin C. Pierce.
Software Foundation Series, Volume 4

Luck: A Probabilistic Language for Testing *chapter, to appear*
Leonidas Lampropoulos, Diane Gallois-Wong, Cătălin Hriţcu, John Hughes, Benjamin C. Pierce, and Li-yao Xia (editors: Gilles Barthe, Joost-Pieter Katoen, and Alexandra Silva)
In book: Foundations of Probabilistic Programming

PUBLICATIONS

Merging Inductive Relations ***PLDI 2023***
Jacob Prinz and Leonidas Lampropoulos

Liquid Proof Macros ***Haskell 2022***
Henry Blanchette, Niki Vazou, and Leonidas Lampropoulos

Random Testing of a Higher-Order Blockchain Language ***ICFP 2022***
Tram Hoang, Anton Trunov, Leonidas Lampropoulos, and Ilya Sergey

Deeper Shallow Embeddings ***ITP 2022***
Jacob Prinz, Alex Kavvos, and Leonidas Lampropoulos

Computing Correctly with Inductive Relations ***PLDI 2022***
Zoe Paraskevopoulou, Aaron Eline, and Leonidas Lampropoulos.

A Formal Model for Checked C ***CSF 2022***
Liyi Li, Yiyun Liu, Deena Postol, Leonidas Lampropoulos, David Van Horn, and Michael Hicks.

Do Judge a Test by its Cover: ***ESOP 2021***
Combining Combinatorial and Property-Based Testing
Harrison Goldstein, John Hughes, Leonidas Lampropoulos, and Benjamin C. Pierce.

Coverage Guided, Property Based Testing ***OOPSLA 2019***
Leonidas Lampropoulos, Michael Hicks, and Benjamin C. Pierce.

Advancing Safety Incrementally with Checked C ***POST 2019***
Andrew Ruef, Leonidas Lampropoulos, Ian Sweet, David Tarditi, and Michael Hicks.

Keep your Laziness in Check ***ICFP 2018***
Kenneth Foner, Hengchu Zhang and Leonidas Lampropoulos.

Generating Good Generators for Inductive Relations ***POPL 2018***
Leonidas Lampropoulos, Zoe Paraskevopoulou and Benjamin C.

Ode on a Random Urn (Functional Pearl) ***Haskell 2017***
Leonidas Lampropoulos, Antal Spector-Zabusky and Kenneth Fonner

A Tale of Two Provers: ***Haskell 2017***
Verifying Monoidal String Matching in Liquid Haskell and Coq
Niiki Vazou, Leonidas Lampropoulos and Jeff Polakow.

Beginner's Luck: A Language for Property-Based Generators ***POPL 2017***
Leonidas Lampropoulos, Diane Gallois-Wong, Cătălin Hriţcu, John Hughes, Benjamin C. Pierce, and Li-yao Xia.

Measuring Neural Net Robustness with Constraints ***NIPS 2016***
Osbert Bastani, Yani Ioannou, Leonidas Lampropoulos, Dimitrios Vytiniotis, Aditya Nori and Antonio Criminisi.

Foundational Property-Based Testing ***ITP 2015***
Zoe Paraskevopoulou, Cătălin Hriţcu, Maxime Dénès, Leonidas Lampropoulos, and Benjamin C. Pierce.

Testing Noninterference, Quickly. ***JFP 2016*, *ICFP 2013***
Cătălin Hriţcu, Leonidas Lampropoulos, Antal Spector-Zabusky, Arthur Azevedo De Amorim, Maxime Dénès, John Hughes, Benjamin C. Pierce, and Dimitrios Vytiniotis.

Automatic WSDL-guided Test Case Generation for PropEr Testing of Web Services ***WWV 2012***
Leonidas Lampropoulos and Kostis Sagonas.

PATENTS

Neural Network Image Classifier ***US 2017/0316281***
Antonio Criminisi, Aditya Nori, Dimitrios Vytiniotis, Osbert Bastani, and Leonidas Lampropoulos
Microsoft Technology Licensing, LLC

TEACHING

Instructor: Program Analysis and Understanding, CMSC 631, UMD	Fall '22
STIC Supervisor: Introduction to Programming Language Theory, CMSC 388X, UMD	Spring '22
Instructor: Advanced Functional Programming, CMSC 488B, UMD	Spring '22
Instructor: Advanced Topics in Programming Languages, CMSC 838G, UMD	Fall '21
Instructor: Design and Implementation of Programming Languages, CMSC 430, UMD	Spring '21
Instructor: Program Analysis and Understanding, CMSC 631, UMD	Fall '20
Instructor: Program Analysis and Understanding, CMSC 631, UMD	Fall '19
Lecturer: Property-based Random Testing with QuickChick, DeepSpec Summer School	Summer '18
Lecturer: Property-based Random Testing with QuickChick, DeepSpec Summer School	Summer '17

INVITED TALKS AND TUTORIALS

How (not) to Give a Great Research Talk
PLMW @ POPL, Boston, 2023

QuickChick: Property-Based Testing in Coq
TutorialFest @ POPL, Boston, 2023

Deeper Shallow Embeddings
Athens PL Seminar, NTUA, 2022

Adventures in Property-Based Testing
Research Challenges in Computer Science, NTUA, 2022

Computing Correctly with Inductive Relations
Athens PL Seminar, NTUA, 2021

Property-Based Testing for OCaml through Coq
OCaml Workshop, ICFP, 2021

Do Judge a Test by it's Cover
Athens PL Seminar, NTUA, 2020

Adventures in Property-Based Testing
UIC PL Seminar, Spring 2020

Software Correctness through Testing and Verification
IMDEA (Invited Talk), 2020

Structured Property-Based Fuzzing
Athens PL Seminar, NTUA, 2019

FuzzChick : Type-Aware Property-Based Fuzzing
Athens PL Seminar, NTUA, 2019

QuickChick : Property-Based Testing in Coq
POPL TutorialFest, Lisbon, 2019

StrictCheck : Keep your Laziness in Check
Athens PL Seminar, NTUA, 2018

Ode to a Random Urn
Athens PL Seminar, NTUA, 2017

Random Testing in the Coq Proof Assistant
Keynote, Computational Logic and Applications, Chalmers, 2017

Making our Own Luck
Athens PL Seminar, NTUA, 2016

Making our Own Luck: A Language for Random Generators
PPS Workshop, 2016

Testing Noninterference, Quickly
Athens PL Seminar, NTUA, 2013

SERVICE

POPL '26: PLMW co-chair
POPL '25: PLMW co-chair
POPL '24: PLMW co-chair
POPL '24: AEC co-chair
Haskell '23: PC member
PLDI '23: PC member
POPL '23: PLMW Invited Speaker
POPL '23: AEC co-chair
CoqPL '22: PC member
POPL '22: PC member
ICFP '21: PC member
ICFP '21: Workshop co-chair
OOPSLA '22: ERC member
CLA '20: PC member
FLOPS '20: PC member
ICFP '20: Workshop co-chair
OOPSLA '19: SRC judge
OOPSLA '19: PLMW, Panel: PhD Life
PLDI '19: AEC member
PLAS '19: PC member
ICFP '18: PLMW, Panel: Research in Functional Programming
Haskell '16: External Reviewer

AWARDS

2023 Maryland Research Excellence Celebration
2022 NSF CAREER Award
2018 Victor Basili PostDoctoral Fellowship (UMD)
2014 Teaching Practicum Award (Penn Engineering)

2012	State Scholarship Foundation (IKY) award and scholarship for first place during the 5th year of studies
July 2011	Second Prize, 18th International Mathematical Competition (IMC) for University Students , Blagoevgrad, Bulgaria
2011	IKY first place award and scholarship (4th year)
July 2010	Honorable Mention, 17th IMC, Blagoevgrad, Bulgaria
2010	IKY first place award and scholarship (3rd year)
July 2009	Honorable Mention, 16th IMC, Budapest, Hungary
Mar 2009	2nd Award, South Eastern European Mathematical Olympiad, Cyprus
Feb 2007	3rd Award, 24th Mathematical Olympiad "Archimedes"
Feb 2007	1st Award, 67th Panhellenic Math Contest "Euclid"
Feb 2006	1st Award, 66th Panhellenic Math Contest "Euclid"
June 2005	Third Prize, 9th Junior Balcan Mathematical Olympiad, Veroia

PROJECTS

QuickChick
Property-Based Testing Tool for Coq (OCaml)

Luck - Interpreter
Interpreter for Luck (Haskell)

Luck - Metatheory
Metatheory for Luck (Coq)

Checked C
Metatheory for Checked C (Coq)

Neural Network Analysis Framework
Abstract Interpreter for Deep Neural Networks for Generating Adversarial Examples (C#)

LANGUAGES

Greek: Native
English: Excellent (*Certificate of Proficiency in English, Oxford*)
German: Basic (*B2 Mittelstufe Deutsch*)