

Niki Vazou

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My research brings formal verification on programming languages. Mostly, I work on Liquid Haskell, a refinement type checker for Haskell programs. I have 7 papers on CORE A* (flagship) conferences (2 ICFP, 2 POPL, 1 PLDI and 2 OOSPLA). My h-index is 10, I have 555 citations, and I am an active member of the Programming Languages community having served to 19 committees and (co-) chaired seven venues.

Education & Positions

- 2018-present **Research Assistant Professor**
IMDEA Software Institute, Madrid, Spain
- 2017-2018 **Postdoctoral Fellow in Programming Languages Group**
Department of Computer Science, University of Maryland
- 2011-2016 **PhD in Programming Systems Group (GPA: 3.962 / 4)**
Department of Computer Science & Engineering, University of California, San Diego

Fellowships & Awards

- 2019 Atraccion de Talento Fellowship, Madrid
- 2017 Victor Basili Postdoctoral Fellowship, UMD
- 2015 UCSD CSE Graduate Award for Research
- 2014 Microsoft Research Graduate Research Fellowship

Internships

- Summer 2016 Awake Networks, Mountain View, USA.
- Summer 2014 Microsoft Research, Redmond, USA.
- Fall 2013 Microsoft Research, Cambridge, UK.
- Summer 2012 Opa, Paris, France.

Teaching Experience

- Fall 2019 Course: Advanced Functional Programming Languages, UPM, Spain.
- Winter 2018 Course CMSC330: Organization of Programming Languages, UMD, USA.
- Fall 2017 Course CMSC498V: Advanced Functional Programming Languages, UMD, USA.

Supervision

- 2018-now Panagiotis Bougoulas, PhD Candidate, IMDEA.
- 2018-2020 James Parker, PhD, UMD.
- 2020 Mustafa Hafidi, Master Thesis, IMDEA.
- 2020-now Zack Grannan, Intern, IMDEA.
- 2019 Stefan Malewski, Intern, IMDEA.

Publications

- Y. Liu, J. Parker, P. Redmond, L. Kuper, M. Hicks, and **N. Vazou**. Verifying Replicated Data Types with Typeclass Refinements in Liquid Haskell. OOPSLA, 2020.
- J. Parker, **N. Vazou**, and M. Hicks. Information Flow Security for Multi-Tier Web Applications. POPL, 2019.
- M. Kazerounian, S. N. Guria, **N. Vazou**, J. Foster, D. Van Horn. Type-Level Computations for Ruby Libraries. PLDI, 2019.
- N. Vazou**, E. Tanter, and D. Van Horn. Gradual Liquid Type Inference. OOPSLA, 2018. *Best Paper Award*
- N. Vazou**, A. Tondwalkar, V. Choudhury, R. Newton, P. Wadler, and R. Jhala. Refinement Reflection: Complete Verification with SMT. POPL, 2018
- N. Vazou**, A. Bourgerie, J. S. Foster, E. Torlak. Refinement Types for Ruby. VMCAI, 2018.
- N. Vazou**, J. Breitner, R. Kunkel, D. Van Horn, and G. Hutton. Theorem Proving for All. Haskell Symposium, 2018.
- N. Vazou**, L. Lampropoulos, and J. Polakow. A Tale of Two Provers. Haskell Symposium, 2017.
- N. Vazou**, and D. Leijen. From Monads to Effects and Back. PADL 2016.
- N. Vazou**, A. Bakst, and R. Jhala. Bounded Refinement Types. ICFP, 2015.
- E. Seidel, **N. Vazou**, and R. Jhala. Type Targeted Testing. ESOP, 2015.
- N. Vazou**, E. Seidel, R. Jhala, D. Vytiniotis, and S. Peyton-Jones. Refinement Types for Haskell. ICFP, 2014.
- N. Vazou**, E. Seidel, and R. Jhala. LiquidHaskell: Experience with Refinement Types in the Real World. Haskell, 2014.
- N. Vazou**, P. Rondon, and R. Jhala. Abstract Refinement Types. ESOP, 2013.

Committee Member

VMCAI'21, PEPM'21, CAV'20, FCS'20, TFP'20, POPL'19, ESOP'18, Haskell Symposium'18, ICFP'18, Haskell in Leipzig'17, ML-Family Workshop'17, Scala Symposium'17, PADL'17, Haskell Implementors' Workshop'16, Haskell Symposium'16, Haskell in Leipzig'16, Scala Symposium'16, PADL'16, TFP'16.

Organizations

- Co-Chair, Artifact Evaluation, PLDI 2021.
- Virtualization Committee, POPL, 2020.
- Co-Chair, Student Research Competition, POPL 2019, 2020.
- Chair, Haskell Implementors' Workshop 2019.
- Co-Chair, Programming Languages and Analysis for Security, 2019.
- Co-Organizer, Programming Languages Mentoring Workshop, ICFP, 2018.
- Co-Chair, Workshop on Type-Driven Development, 2018.
- Member of Haskell.org Committee 2016-2020.