THE CENTER FOR ADVANCED COMPUTER STUDIES

at

the University of Louisiana at Lafayette

Lafayette, Louisiana

Proudly announces a presentation

Dr. Niki Vazou

Assistant Professor
IMDEA

will give a presentation entitled

Liquid Haskell: Refinement Type Checker for Haskell

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Abstract: Liquid Haskell is an extension to Haskell that adds refinement types to the language, which are then checked via an external theorem prover such as z3. With refinement types, one can express many interesting properties of programs that are normally out of reach of Haskell's type system or only achievable via quite substantial encoding efforts and advanced type system constructs. On the other hand, the overhead for checking refinement types is often rather small, because the external solver is quite powerful.

Liquid Haskell used to be an external, standalone executable, but is now available as a GHC plugin, making it much more convenient to use.

In this tutorial, we will discuss how refinement types work, give many examples of their use and learn how to work with Liquid Haskell productively.

DATE: FRIDAY, APRIL 23, 2021

TIME: 11:00 A.M – 12:00 NOON

LOCATION: Via Zoom

Biography: Niki Vazou is an Assistant Professor at IMDEA. After her undergraduate degree in NTUA, Athens, Greece, she got her Ph.D. from UCSD, San Diego where she developed Liquid Haskell. After that, she spent some time as a postdoctoral fellow at University of Maryland. Her research interests include refinement types, automated program verification, and type systems and her goal is to make theorem proving a useful part of mainstream programming. Liquid Haskell is an SMT-based, refinement type checker for Haskell programs that has been used for various applications ranging from fully automatic light verification of Haskell code, e.g., bound checking, to sophisticated theorem proving, e.g., non-interference.

Zoom Meeting:

https://ullafayette.zoom.us/j/95570241062?pwd=QTlRV3FYVjdWSCtnVTFRN2c2QmErUT09

Passcode: Fri11Semi