

Ningning Xie

CONTACT INFORMATION	Room 430, Chow Yei Ching Building The University of Hong Kong, Hong Kong https://xnning.github.io	(+852) 53181220 xnningxie@gmail.com
RESEARCH FIELDS	Programming Language Design and Implementation, Type Systems, Functional Programming, Compiler, Gradual Typing, Program Verification	
EDUCATION	The University of Hong Kong , Hong Kong, China Ph.D. in Computer Science Sep. 2015 - 2020 <ul style="list-style-type: none">Programming Languages Group. Advisors: Dr. Bruno C. d. S. Oliveira Zhejiang University , Hangzhou, China B.S. in Computer Science and Engineering Sep. 2011 - Aug. 2015 <ul style="list-style-type: none">Cum. GPA 3.92/4.0, Major GPA 3.97/4.0, Rank 2% (4/204).Thesis: Algebraic Datatypes in Object Oriented Language.	
RESEARCH EXPERIENCE	Visiting Scholar , Bryn Mawr College May - Sept. 2018 <ul style="list-style-type: none">Host: Dr. Richard A. Eisenberg.Working on integrating coercion quantification into the core language of GHC, System FC, as steps towards Dependent Haskell (HIW 2018). Visiting Scholar , The Katholieke Universiteit Leuven, Belgium Jan. - May 2018 <ul style="list-style-type: none">Host: Prof. Tom Schrijvers.Working on providing a formal proof to prove elaboration-based type class resolution in Haskell is semantically coherent (Draft).	
PUBLICATIONS	<ol style="list-style-type: none">Xuan Bi, Ningning Xie, Bruno C. d. S. Oliveira, Tom Schrijvers. Distributive Disjoint Polymorphism for Compositional Programming. <i>to appear in European Symposium on Programming (ESOP 2019)</i>. April 2019.Ningning Xie, Xuan Bi, Bruno C. d. S. Oliveira, Tom Schrijvers. Consistent Subtyping for All. <i>To appear in ACM Transaction on Programming Languages and Systems (TOPLAS)</i>. January 2019.Ningning Xie, Bruno C. d. S. Oliveira. Let Arguments Go First. <i>In European Symposium on Programming (ESOP 2018)</i>. April 2018.Ningning Xie, Xuan Bi, Bruno C. d. S. Oliveira. Consistent Subtyping for All. <i>In European Symposium on Programming (ESOP 2018)</i>. April 2018.	
WORKSHOPS	<ol style="list-style-type: none">Ningning Xie, Richard A. Eisenberg. Coercion Quantification. <i>In 10th Haskell Implementors' Workshop (HIW 2018)</i>. September 2018.Ningning Xie, Bruno C. d. S. Oliveira. Towards Unification for Dependent Types. <i>In 18th Symposium on Trends in Functional Programming (TFP 2017)</i>. June 2017.	

PROJECTS	<p>Coercion Quantification: in Glasgow Haskell Compiler (GHC)</p> <ul style="list-style-type: none"> Implemented coercion quantification (HIW 2018) in GHC, the open-source state-of-the-art compiler for the Haskell programming language. Besides, I have implemented various improvements and fixes (e.g. D4747, D5018, D5231), all merged in master. <p>GPC: Gradually Polymorphic Calculus.</p> <ul style="list-style-type: none"> We proposed the first design of combining Haskell-style implicit higher-rank polymorphism with gradual typing (ESOP 2018). GPC is implemented in Haskell and verified in Coq. <p>FCore: Research middleware compiler from System F-based languages to Java.</p> <ul style="list-style-type: none"> We proposed a JVM implementation of System F with support for tail-call elimination. FCore is implemented in Haskell and Java. 	
WORKING EXPERIENCE	<p>Developer. Goole Summer of Code. May 2018 - Sept. 2018</p> <ul style="list-style-type: none"> Working with haskell.org (Summer of Haskell). Implemented coercion quantification, and presented the work at Haskell's Implementors Workshop (HIW 2018). Mainly use Haskell. <p>Intern. Hangzhou Duyun Technology Inc. Hangzhou, China Oct 2014 - Jan. 2015</p> <ul style="list-style-type: none"> Web developer at a Startup for an social networking service for education, serving 100k+ teachers and parents. Mainly use Ruby (Ruby on Rails) and JavaScript (AngularJS). <p>Intern. Morgan Stanley. Shanghai, China July - Sep. 2014</p> <ul style="list-style-type: none"> Developed a dashboard for monitoring distributed data service. Mainly use Java (Spring) and JavaScript (jQuery). 	
PROGRAMMING SKILLS	<p>Working Knowledge: Haskell • Coq • Ruby • Java</p> <p>Familiar: Scala • Idris • Python • C/C++</p>	
SERVICE	<ul style="list-style-type: none"> Program Committee Member. Haskell Implementors' Workshop 2019. Program Committee Member. Haskell Symposium 2019. Committee Member in Artifact Evaluation Committee. ICFP 2019. Subreviewer. APLAS 2016, ESOP 2017, APLAS 2017, FLOPS 2018, ECOOP 2019. Student Volunteer. APSys 2016, PLDI 2018, ICFP 2018, ETAPS 2019. Voluntary Translator. Software Foundations, Chinese edition. 	
MISCELLANY	<ol style="list-style-type: none"> Ningning Xie. Literature Review of GHC Core. In <i>The GHC Commentary</i>. June 2018. 	
WORKING DRAFT	<ol style="list-style-type: none"> Ningning Xie, Bruno C. d. S. Oliveira, Xuan Bi, Tom Schrijvers. On the Expressive Power of Disjoint Polymorphism. <i>Working Draft</i>. Gert-Jan Bottu, Ningning Xie, Koar Marntirosian, Tom Schrijvers. Coherence of Type Class Resolution. <i>Working Draft</i>. 	

EXTRACURRICULAR EXPERIENCE	DeepSpec Summer School, UPenn July 2017 <ul style="list-style-type: none"> Funded participant of the first DeepSpec Summer School on Verified Systems.
TEACHING	Teaching Assistant Spring 2019 COMP 3259: Principles of Programming Languages (advanced Haskell course for undergrads)
	Teaching Assistant Fall 2017 COMP 3258: Functional Programming (Haskell course for undergrads)
INVITED TALKS	<ul style="list-style-type: none"> Dependent Types in Haskell. Hong Kong Functional Programming Meetup. <i>Emurgo HK. Dec. 13, 2018.</i> Consistent Subtyping for All. Penn PLClub. <i>University of Pennsylvania. May 11, 2018.</i>
CONFERENCE PRESENTATIONS	<ul style="list-style-type: none"> Coercion Quantification. <i>HIW 2018. Sept 23, 2018.</i> Let Arguments Go First. <i>ESOP 2018. April 17, 2018.</i> Towards Unification for Dependent Types. <i>TFP 2017. June 19, 2017.</i>
SCHOLARSHIPS & AWARDS	<ul style="list-style-type: none"> Finalist. Women Techmakers Scholar (former Google Anita Borg Scholarship) in Asia Pacific. 2018 ETAPS Student Scholarship. April 2018, April 2019 ICFP-PLMW Travel Scholarship. Sept. 2016 Province Outstanding Graduate (highest honor in province). July 2015 1st Price. 6th Huawei Cup Software Innovation Contest. June 2015 Outstanding Student Scholarship (highest scholarship in university). 2012, 2014