

# Xuan Bi

---

CONTACT INFORMATION	Room 430, Chow Yei Ching Building The University of Hong Kong, Hong Kong <a href="https://bixuanzju.github.io/">https://bixuanzju.github.io/</a>	(+852) 62477457 <a href="mailto:bixuanxbi@gmail.com">bixuanxbi@gmail.com</a>
RESEARCH FIELDS	Programming Language Design, Type Systems, Functional Programming, Gradual Typing, Program Verification	
EDUCATION	<b>The University of Hong Kong</b> , Hong Kong, China	
	Ph.D. in <b>Computer Science</b>	Sep. 2014 - (Expected) Fall 2018
	<ul style="list-style-type: none"><li>• Thesis Topic: <i>Disjoint Intersection Types: Theory and Practice</i></li><li>• Advisors: Dr. Bruno C. d. S. Oliveira and Prof. T.H. Tse</li></ul>	
	<b>Zhejiang University</b> , Hangzhou, China	
	B.S. in <b>Computer Science and Engineering</b>	Sep. 2010 - Aug. 2014
	<ul style="list-style-type: none"><li>• Cum. GPA: 3.9 out of 4.0</li><li>• He Zhijun Honor Class</li><li>• Thesis Advisor: Prof. Huajun Chen</li></ul>	
	<b>Simon Fraser University</b> , Vancouver, China	
	Exchange in <b>Computing Science</b>	Sep. 2012 - Apr. 2013
	<ul style="list-style-type: none"><li>• Cum. GPA: 3.9 out of 4.0</li></ul>	
PUBLICATIONS	<ol style="list-style-type: none"><li>1. <b>Xuan Bi</b>, Bruno C. d. S. Oliveira, Tom Schrijvers. <b>The Essence of Nested Composition</b>. <i>In European Conference on Object-Oriented Programming (ECOOP 2018)</i>.</li><li>2. <b>Xuan Bi</b>, Bruno C. d. S. Oliveira. <b>Typed First-Class Traits</b>. <i>In European Conference on Object-Oriented Programming (ECOOP 2018)</i>.</li><li>3. Ningning Xie, <b>Xuan Bi</b>, Bruno C. d. S. Oliveira. <b>Consistent Subtyping for All</b>. <i>In European Symposium on Programming (ESOP 2018)</i>.</li><li>4. Yanpeng Yang, <b>Xuan Bi</b>, Bruno C. d. S. Oliveira. <b>Unified Syntax with Iso-Types</b>. <i>In Asian Symposium on Programming Languages and Systems (APLAS 2016)</i>.</li><li>5. Tomas Tauber, <b>Xuan Bi</b>, Zhiyuan Shi, Weixin Zhang, Huang Li, Zhenrui Zhang, Bruno C. d. S. Oliveira. <b>Memory-efficient Tail Calls in the JVM with Imperative Functional Objects</b>. <i>In Asian Symposium on Programming Languages and Systems (APLAS 2015)</i>.</li><li>6. Xi Chen, Huajun Chen, <b>Xuan Bi</b>, Peiqin Gu, Jiaoyan Chen, Zhaohui Wu. <b>BioTCM-SE: A Semantic Search Engine for the Information Retrieval of Modern Biology and Traditional Chinese Medicine</b>. <i>Comp. Math. Methods in Medicine 2014</i>.</li></ol>	
DRAFTS	<ol style="list-style-type: none"><li>1. Ningning Xie, <b>Xuan Bi</b>, Bruno C. d. S. Oliveira, Tom Schrijvers. <b>Consistent Subtyping for All</b>. <i>Invited submission to TOPLAS</i>.</li></ol>	

PROJECTS	<p><b>GPC:</b> A type checker for <b>Gradually Polymorphic Calculus</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Github link</a></li> <li>• We proposed the first design of combining gradual typing with implicit higher-rank polymorphism. <b>GPC</b> is implemented in Haskell.</li> </ul> <p><b>SEDEL:</b> Type system for first-class traits</p> <ul style="list-style-type: none"> <li>• <a href="#">Github link</a></li> <li>• We proposed the first design of typed first-class traits with support for dynamic inheritance, abstract methods, etc. <b>SEDEL</b> is implemented in Haskell.</li> </ul> <p><b>NeColus:</b> Coq formalization of a type-safe calculus that supports nested composition</p> <ul style="list-style-type: none"> <li>• <a href="#">Github link</a></li> <li>• We proposed a simple calculus that supports nested composition and disjoint intersection types. Type safety and coherence are verified in the Coq proof assistant.</li> </ul> <p><b>FCore:</b> Research middleware compiler from System F-based languages to Java</p> <ul style="list-style-type: none"> <li>• <a href="#">Github link</a></li> <li>• We proposed a JVM implementation of System F with support for tail-call elimination. <b>FCore</b> is implemented in Haskell and Java.</li> </ul>
PROGRAMMING SKILLS	<p><b>Working Knowledge:</b> Haskell • Java • Coq</p> <p><b>Basic Knowledge:</b> Scala • Agda • Idris • Racket • C • Python</p>
TEACHING	<p><b>Teaching Assistant</b> Fall 2017, Spring 2017</p> <p>COMP 3258: Functional Programming</p> <p>Instructor: Dr. Bruno C. d. S. Oliveira</p> <p><b>Teaching Assistant</b> Fall 2016, Spring 2015, Fall 2014</p> <p>COMP 3259: Principles of Programming Languages</p> <p>Instructor: Dr. Bruno C. d. S. Oliveira</p>
PROFESSIONAL SERVICE	<ul style="list-style-type: none"> <li>• ESOP 2017, subreviewer</li> <li>• SBLP 2016, subreviewer</li> </ul>
SCHOLARSHIPS & AWARDS	<ul style="list-style-type: none"> <li>• Conference Support for Research Postgraduate Students Apr. 2018</li> <li>• Postgraduate Scholarship (PGS) Sep. 2014 - Aug. 2018</li> </ul>
EXTRACURRICULAR EXPERIENCE	<p><a href="#">ECOOP</a> Amsterdam, Netherlands, 2018</p> <ul style="list-style-type: none"> <li>• <b>Student volunteer</b></li> </ul> <p><a href="#">Morgan Stanley</a> HKU, 2017</p> <ul style="list-style-type: none"> <li>• <b>Lead student helper</b>, in charge of coordinating student tasks for the talk by Dr. Bjarne Stroustrup, Father of C++</li> </ul> <p><a href="#">DeepSpec Summer School</a> UPenn, USA, 2017</p> <ul style="list-style-type: none"> <li>• <b>Funded participant</b> of the first DeepSpec Summer School on Verified Systems</li> </ul> <p>Hong Kong Functional Programming Meetup Hong Kong</p> <ul style="list-style-type: none"> <li>• <b>Invited speaker</b>, talk titled “<a href="#">Programming with dependent types in Idris</a>”</li> <li>• <b>Invited speaker</b>, talk titled “<a href="#">New Buzz in Haskell Reloaded</a>”</li> </ul>