

## Zhuo Ming LU, Kenny

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### PERSONAL PARTICULAR

Date of Birth: 04/04/1978

Nationality: Chinese (Singapore PR)

Gender: Male

### CONTACT INFORMATION

School of Computing National

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University of Singapore

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### RESEARCH INTERESTS

Type system, Language transformation, XML processing, Embedded system specific compiler, Information-flow security, Database Query

### EDUCATION

**National University of Singapore**, Singapore

Phd. Candidate, Computer Science, July 2001 (expected graduation date: August 2006)

- **Dissertation Topic:** “XHaskell: A Regular Expression Type extension to Haskell”
- **Advisor:** Dr. Martin Sulzmann
- **Project description:** Using formal approach to extend a generic functional language, like Haskell, with Regular Expression Type and Pattern Matching, i.e. type-safe XML-process feature. For type-insensitive languages and library, like XSLT and Java DOM, the conformance between the user-defined program and DTD/Schema is left to be verified by programmer him/herself. In contrast, XHaskell compiler is able to verify the conformance when the program is compiled. Violations in conformance is reported to the programmer automatically as type errors. We have developed a prototype compiler of our new target language, XHaskell. We believe such a formal system can also be ported to C++ with some minor modification.
- **Methods and tools applied:** *Haskell Type Class, Formal Language transformations, Type level programming, Valentin Antimirov's Algorithm for testing inclusion between regular expression, C++ template and traits, XDuce's style of static type checking and inference, Compiler Generator Yacc and Happy.*

**National University of Singapore**, Singapore

B.Sc. (Honours), Computer Science, July 2001

- **Dissertation Topic:** “Models and Methods of Web portal development”
- **Advisor:** A/P. Wei Ngan Chin
- **Project description:** Applying state-of-art methods and tools to develop a commercialized web portal for E-Ship Business Ptd. We developed an online portal to facilitate services like product enquiry, stock update, PO transaction, payment transaction, delivery tracking. The system is developed on WindowsNT platform using a IIS webserver. Various system component are developed using ASP, C++ and Java frameworks. The integration is done via JNI API. The unifying stock update component plays an important role in the system, which operates by message/data passing using XML documents.
- **Methods and tools applied:** *Java, JDOM, JNI, Visual Studio, Apache, Tomcat, BEA Weblogic, IIS, Microsoft SQL Server, JDOM, JNI and Microsoft Project, Windows 2000 Server, RedHat Linux.*

**National University of Singapore**, Singapore

B.Sc., Computer Science, July 2000

HONORS AND  
AWARDS

Dean's List award 1997 (Sem 1/2) Dean's List award 2000 (Sem 1)

ACADEMIC  
EXPERIENCE

**National University of Singapore**, Singapore

*Graduate Student*

**August, 2001 - Present (Part-time)**

Includes current Master research, and Masters level coursework and research/consulting projects.

*Teaching Assistant*

**August, 2001 - 2003**

Conduct tutorials for Introduction of data base. Supervise students projects of Software Engineering Project development.

ACADAMIC RESULTS **Postgraduate:**

Advanced Topics in Program Languages

**A+**

Reasoning Under Uncertainty

**A-**

Distributed System

**B+**

Program Analsys

**A+**

Embedded Software Design

**B+**

**Undergraduate:** *Please refer to attached transcript.*

PUBLICATIONS

- An Implementation of Subtyping among Regular Expression Types. *Kenny Zhuo Ming Lu, Martin Sulzmann* APLAS 2004
- A Type and Semantic Preserving Translation from XDuce to ML. *Kenny Zhuo Ming Lu, Martin Sulzmann*
- An Implementation of Subtyping among Regular Expression Types. *Kenny Zhuo Ming Lu, Martin Sulzmann* NUS Technical Report (TRB9/04)
- XHaskell: Regular Expression Types for Haskell. *Kenny Zhuo Ming Lu, Martin Sulzmann* NUS Technical Report (TRC9/04)

PAPERS IN  
SUBMISSION

- A Type-Safe Embedding of XDuce into ML *Kenny Zhuo Ming Lu, Martin Sulzmann*

PROJECTS

- XHaskell  
<http://www.comp.nus.edu.sg/~luzm/xhaskell>
- Chameleon  
<http://www.comp.nus.edu.sg/~sulzmann/chameleon>
- PPCHugs  
<http://www.comp.nus.edu.sg/~luzm/ppchugs>

PROFESSIONAL  
EXPERIENCE

**Keppel Shipyard Pte Ltd.** Singapore

*Attachment programmer*

**May 1999 - Nov 1999**

Developer of Oracle based in-house project. In charge of front-end window-based "Subcontractor Returning System" and part of back-end database design.

**CharterTelecom Pte Ltd.** Hongkong

*Technical Engineer*

**Jan 2002 - Present (Part-time)**

In charge of installation, maintenance, configuration of data server, IVR and voice gateway (Unified, Cisco, etc.)

COMPUTER  
TECHNICAL SKILLS

- Languages: XML, Haskell, Java, C, XDUce, CDuce, Scheme, Lisp, C++, C#, SQL, Pascal, some use of Unix shell scripts
- Applications: Standard J2EE, BEA WebLogic, Microsoft .Net Studio, L<sup>A</sup>T<sub>E</sub>X, common Windows word, spreadsheet, and presentation software
- Web Servers: FTP, SSH, IIS, Tomcat/Apache, BEA WebLogic.
- Database Servers: Oracle, Sybase, Windows SQL Server
- Operating Systems: Solaris, Unix/Linux, FreeBSD, QNX, Windows, MacOS

COMPUTER  
KNOWLEDGES

- Functional Programming, Logic Programming, Type system, Pattern Matching;
- Database design;
- Software engineering and system design with UML, project planning and management with Microsoft Project;
- Reasoning under uncertainty, Bayesian network and Markov decision process;
- Distributed Network System.

OTHER ACTIVITIES

- Chairman of Computer Committee in Eusoff Colleague **2002**

ORAL AND WRITING  
SKILLS

- Oral: **Mandarin, English and Cantonese**
- Writing: **Mandarin, English**