

Curriculum Vitae

Steven Halim

(Last updated: 27 March 2009)

PERSONAL PARTICULARS

Name : Steven Halim
Religion : Christianity
Nationality : Indonesian
Place & date of Birth : Jakarta, Indonesia, 24 May 1982
Hand phone no : +65 9422 0587
Current Address : 22 Yew Siang Road #01-02,
Flynn Park, Singapore, S117757
Email : stevenhalim@gmail.com
Personal website : <http://www.comp.nus.edu.sg/~stevenha>
Matriculation/Staff no : HT040831R/029367



SUMMARY

I am a computer scientist who likes to do both research and teach, with a dream that one day I can become a University Professor.

University education and self-study in the field of Computer Science have nurtured me to be a person who knows a wide array of algorithms, excel in programming and to think out of the box. I also like to try new things and ponder on how to attack various computer science problems.

In the past, I have used my algorithm/programming knowledge to participate in several national/international programming contests. Now, with the existing knowledge that I have at the moment, I want to extend the body of science by doing research in optimization algorithms (visualization of stochastic local search) as well as to pass my knowledge to the younger generation via teaching.

RESEARCH <http://www.comp.nus.edu.sg/~stevenha/myresearch>

PUBLICATIONS

2008

- S. Halim, R.H.C. Yap, F. Halim. 2008. Engineering Stochastic Strategies for the Low Autocorrelation Binary Sequence Problem. In proceedings of Principles and Practice of Constraint Programming (CP 2008, Sydney, Australia, September 14-18, 2008): 640-645

2007

- S. Halim, R.H.C. Yap, H.C. Lau. 2007. An Integrated White+Black Box Approach for Designing and Tuning Stochastic Local Search. In proceedings of Principles and Practice of Constraint Programming (CP 2007, Providence, Rhode Island, USA, September 23-27, 2007): 332-347
- S. Halim, R.H.C. Yap. 2007. Designing and Tuning SLS through Animation and Graphics: an Extended Walk-through. In proceedings of Engineering Stochastic Local Search Workshop (SLS 2007, Brussels, Belgium, September 6-8, 2007): 16-30
- S. Halim, H.C. Lau. 2007. Tuning Tabu Search Strategies via Visual Diagnosis. In Metaheuristics: Progress in Complex Systems Optimization: 365-388
- H.C. Lau, W.C. Wan, S. Halim, K. Toh. 2007. A Framework for Meta-heuristics Hybridization. International Transactions in Operational Research (ITOR), 14 (2): 123-141

2006

- S. Halim, R.H.C. Yap, H.C. Lau. 2006. Viz: A Visual Analysis Suite for Explaining Local Search Behavior. In proceedings of User Interface Software and Technology (UIST 2006, Montreux, Switzerland, October 15-18, 2006): 57-66
- S. Halim, R.H.C. Yap, H.C. Lau. 2006. Search Trajectory Visualization for Analyzing Trajectory-Based Metaheuristics. Poster Paper in European Conference on Artificial Intelligence 2006 (ECAI 2006): 703-704

2005

- H.C. Lau, W.C. Wan, S. Halim. 2005. Tuning Tabu Search Strategies via Visual Diagnosis. In proceedings of Metaheuristics International Conference (MIC 2005, Vienna, Austria, August 22-26, 2005): 630-636

2004

- H.C. Lau, W.C. Wan, M.K. Lim, S. Halim. 2004. A Development Framework for Rapid Meta-Heuristics Hybridization. In proceedings of the 28th International Computer Software and Applications Conference (COMPSAC 2004, Hong Kong, September 28-30, 2004): 362-367

PHD THESIS

Stochastic Local Search (SLS) algorithm is a simple and effective paradigm for solving a variety of NP-Hard Combinatorial (Optimization) Problem (COP). However, the performance of the SLS algorithm depends on the careful design and tuning to suit the COP at hand. For my PhD thesis, I propose the integrated white+black box approach for designing and tuning SLS algorithms. I have built a visualization tool to assist my investigation of SLS behavior on various COP instances. The details of this tool can be found in <http://www.comp.nus.edu.sg/~stevenha/viz>. I have managed to obtain one (very) successful result on Low Autocorrelation Binary Sequence (LABS) problem using the proposed approach and tool.

RESEARCH INTERESTS

Algorithm, Competitive Programming, Stochastic Local Search, SLS Design and Tuning Problem, Information Visualization, Human Computer Interaction, User Interface, Combinatorial Optimization, Artificial Intelligence.

SCIENTIFIC CONFERENCES ATTENDED

- | | |
|----------------|--|
| 6-9 Sep 2007 | Engineering Stochastic Local Search Workshop, Brussels, Belgium.
Presenting: "Designing and Tuning SLS through Animation and Graphics: an Extended Walk-through." |
| 15-18 Oct 2006 | User Interface Software and Technology, Montreux, Switzerland.
Presenting: "Viz: A Visual Analysis Suite for Explaining Local Search Behavior". |
| 22-26 Aug 2005 | Metaheuristics International Conference, Vienna, Austria.
Presenting: "Tuning Tabu Search Strategies via Visual Diagnosis". |

TEACHING <http://www.comp.nus.edu.sg/~stevenha/myteaching>

I am an Instructor in School of Computing, National University of Singapore from January 2009.

TEACHING AWARDS

Best Teaching Assistant Award in Department of Computer Science, School of Computing, National University of Singapore for academic year 2008/2009.

TEACHING EXPERIENCE

Time	Module	Institution	Role	Score	Students
Jan-Apr 2009	CS3233 Competitive Programming	SoC, NUS	INS	N/A	21
Feb-Apr 2009	CS1102C Data Structures and Algorithms in C++	SoC/FoE, NUS	TA	N/A	5 groups
Aug-Nov 2008	CS1102 Data Structures and Algorithms in Java	SoC, NUS	TA	4.023	66
Feb-Apr 2008	IT1005 Introduction to Programming with Matlab	SoC/FoE, NUS	LA/ TA	4.035	~90
Aug-Nov 2007	CS1101Y Programming Methodology	SoC, NUS	TA	4.238	17
Jan-May 2007	CS Class	River Valley High School	TF	-	~16
Jan-Apr 2007	CS1102C Data Structures and Algorithms in C++	FoE, NUS	TA (pt)	4.117	4 groups ~100
Aug-Nov 2006	CS1102C Data Structures and Algorithms in C++	FoE, NUS	TA (pt)	4.031	4 groups ~100
May-Jun 2006	IT1002 Introduction to Programming	SoC, NUS	LA (pt)	4.085	1 group ~20
Feb-May 2006	CS Class	Raffles Institution	TF	-	~15
Jan-Apr 2006	CS1102C Data Structures and Algorithms in C++	FoE, NUS	TA (pt)	4.226	4 groups ~100
Sep-Nov 2005	CS1101C Programming Methodology in C	FoE, NUS	TA (pt)	4.003	3 groups ~75
Aug-Oct 2003	CS3241 Computer Graphics	SoC, NUS	TA (pt)	3.243	2 groups ~50

Notes:

1. Institution: SoC = School of Computing, FoE = Faculty of Engineering, NUS = National University of Singapore
2. Roles: INS = Instructor, TA = Teaching Assistant, LA = Lab Assistant, (pt) = (part time), TF = Tutor (Freelance)
3. Teaching Score is out of 5.000
(1 = very bad, 2 = bad, 3 = average, 4 = good, 5 = very good)

SELECTED TEACHING FEEDBACKS

- Rather interactive and tries to make tutorials interesting. Helps us to understand tutorial questions well (good teaching methods).
- He is highly dedicated, and spent a lot of time to prepare for each tutorial. He also tries his best to motivate the students.
- HE IS JUST TOO GOOD. HE IS THE BEST. HE HAS MADE ME UNDERSTAND ALL THAT I WANTED.
- He gives a quick recap of the lecture and then starts with the tutorials. Also he gives us turns to present the answers and then questions further. His style of teaching is excellent and very easy to follow. He is the best tutor i have ever had!!

- Tries to make his lessons as interesting as possible, even doing live demonstrations... Explains the concepts very clearly... Able to guide a student to come up with the solution without revealing too much...
- Mr Halim has put in his best effort in explaining complex matters to the students.
- Apart from tutorial questions, the teacher also presented a summary for the lectures and sent me emails in advance which prompted me to prepare carefully before attending tutorials. Besides, he also helped me to understand lecture notes.
- Very enthusiastic about his teaching. Well prepared lessons. And very approachable. His lessons are more enriching than the lectures. Probably one of the best tutors I have encountered so far in NUS.
- He is very nice. He is able to communicate to us. He helps us understand the different methods of solving the problems in tutorials.
- Proficient in knowledge on Computing; Clear in his explanation (often substantiated with a few examples); Approachable, cheerful, friendly
- He has proved to be more than a teacher and mentor. He had been a great teacher in imparting both CS knowledge as well as interesting moral insights. He even took the initiative to take a class photo during our last tutorial.

For more details, see: <http://www.comp.nus.edu.sg/~stevenha/myteaching/record.html>

MY TEACHING STYLE

The details can be found in <http://www.comp.nus.edu.sg/~stevenha/myteaching/style.html>

BACKGROUND

EDUCATIONAL QUALIFICATIONS

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|--------------|---|
| 2004-present | PhD candidate at National University of Singapore
Project: "Designing and Tuning SLS via Integrated White+Black Box Approach"
Supervisor: Dr Roland Yap Hock Chuan (SoC, NUS),
Dr Lau Hoong Chuin (SIS, SMU) |
| 2000-2004 | Bachelor of Computing with Honours in Computer Science (2 nd Upper)
National University of Singapore
Cumulative Average Point: 4.19 out of 5.00 |

ACHIEVEMENTS/PARTICIPATION

- | | |
|----------|---|
| Dec 2008 | NUSSOC2 & NUSSOC3 coach for ACM ICPC regional contest, International Islamic University Malaysia, Kuala Lumpur, Malaysia, 15-16 Dec 2008, Joint-15 th and 16 th . |
| Aug 2004 | Obtained 4 years NUS Research Scholarship for PhD education (2004-2008). |
| Dec 2004 | NUS Team B member for ACM ICPC regional contest, Shanghai Jiaotong University, Shanghai, China, 4-5 Dec 2004, Honorable Mention.
Other team members: Wang Zirui & Nguyen Viet Bang |
| Nov 2003 | NUS Team B member for ACM ICPC regional contest, University of Aizu, Japan, 1-2 Nov 2003, Honorable Mention.
Other team members: Teng Junbin & Zhang Zhiyong, Melvin. |
| Nov 2001 | NUS Team B member for ACM ICPC regional contest, NTU, Singapore 29-30 Nov 2001, Rank Joint-6th.
Other team members: Zhang Kaicheng & James Chew. |

- Dec 1999 Rank 6th (team) from 18 teams in International Students Software Competition (ISSC 99) at School of Computing, NUS, Singapore
- Sep 1999 2nd runner up in Bina Nusantara programming competition, Indonesia (team)

PROJECTS

- Sep 2006-Nov 2007 Develop a sea traffic simulation program of Straits of Malacca.
- 2005 Develop a course bidding simulation program.
- Aug-Nov 2004 Develop a first-person 3D shooter game: Tale of Time with 3 other students (Jefry, Lucas, Fabianus) for our game development module.
http://www.comp.nus.edu.sg/~stevenha/mysoftware/Tale_of_Time/tale_of_time.html

ACTIVITIES

- Jul 2005 – present Member of Mission Team
Bukit Batok Presbyterian Church
- Oct 2003 – present Member of FES-IM Mission Team - Riau Islands Ministry
Fellowship of Evangelical Students – Indonesian Ministry (FES-IM)
- 2001 – present Create and maintain a programming/online-judge hints website that has been used by a lot of programmers around the world:
<http://www.comp.nus.edu.sg/~stevenha/programming/acmoj.html>
- May 2005 – Jun 2007 Secretary and Treasurer
Indonesian Young Adult Fellowship – Bukit Batok Presbyterian Church
- Aug 2003 – May 2006 Cell Group Leader
NUS - Indonesian Students Christian Fellowship
- Jun 2004 – Jul 2005 Member of Society and Education Interest Group
Indonesian Graduates Christian Fellowship (Singapore)
- May 2003 – May 2004 Member of Final Year Ministry and Public Relations
Indonesian Students Christian Fellowship at Singapore (ISCF-SG)
- Mar 2001 – May 2004 Member and committee
Indonesian Students Christian Fellowship (NUS-ISCF)

LANGUAGES

English (written + spoken)
Indonesian (written + spoken)

SOFTWARE SKILL (Not exhaustive)

Productivity Tools : Microsoft Office 2007/XP (Word, Excel, PowerPoint), LaTeX
 Programming Tools : Microsoft Visual Studio 2005 (VC++, VC#), gcc, DevC++
 Image Editing : GIMP, Adobe Photoshop 7.0
 Video Editing : Windows Movie Maker, Cyberlink Power Director, Camtasia Studio 3
 Website Development : Frontpage, Macromedia Dreamweaver MX, Webservers (Apache/PHP)
 Others : Game Development SDK (TV3D, OpenGL, DirectX)

PROGRAMMING LANGUAGES KNOWN (In decreasing order of familiarity)

C/C++/VC++; C#/VC#; Java; VB; Pascal