

## Dr. Iman S. H. Suyoto

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*More contact details are available upon request*

### HIGHLIGHTS OF ACHIEVEMENTS

- Interviewed by “The Age”, a major Victorian newspaper, on 15 October 2006 and SBS Radio, a major Australian radio station, on 18 December 2009 about my research.
- Graded “high distinction” in the tutor assessment organised by the RMIT University’s School of Computer Science and Information Technology (CS&IT).
- Developed the RMIT Fanimae music search engine.
- Received the Australian Postgraduate Award and the School of CS&IT research scholarships.
- Co-authored a book on web multimedia programming.
- Won the “Best Research Report” prize for the “Research Methods” course organised by the School of CS&IT in Semester 2, 2003.
- Frequently delivered seminar talks.
- Consistently achieved distinctions or high distinctions in information technology related courses.

### EDUCATIONAL BACKGROUND

- **2004–2008: Doctor of Philosophy in Computer Science** (degree conferred in December 2009)  
School of Computer Science and Information Technology, RMIT University, Melbourne, Australia  
Research topic: “Cross-domain content-based retrieval of audio music through transcription”.  
*Awarded the Australian Postgraduate Award and School of Computer Science and Information Technology Research Scholarship.*
- **2003: Articulation into Doctor of Philosophy in Computer Science**  
School of Computer Science and Information Technology, RMIT University, Melbourne, Australia  
(Master’s) minor thesis title: “Microtonal music information retrieval”.  
Formally enrolled in the Master of Applied Science in Information Technology with the *School of Computer Science and Information Technology Research Scholarship* grant. Won “Research Methods” best research report during this semester.
- **2002–2003: Master of Technology in Information Technology**  
School of Computer Science and Information Technology, RMIT University, Melbourne, Australia

Specialisations: Web computing and advanced databases.

Graduate Diploma in Software Development *with distinction* was awarded as an intermediate qualification.

- **1995–2001: Sarjana Sains (Bachelor of Science [Honours]) in Physics**

Department of Physics, University of Indonesia, Depok, Indonesia

Specialisation: Pure physics.

Project title: “Identification of crystal system: Computational method and implementation using Java 2 Platform”.

University of Indonesia is one of Indonesia’s major public universities. Entry to the university is restricted to top students as assessed in the national entrance test.

## **PROFESSIONAL MEMBERSHIP**

- The ARC Network in Human Communication Science.
- Association for Computing Machinery.
- British Computer Society Information Retrieval Specialist Group.
- RMIT Search Engine Group.

## **SKILLS AND ABILITIES**

- **Student-centred academic teaching**

- Graded “High Distinction” in the tutor assessment organised by the RMIT University School of Computer Science and Information Technology. The review mentioned that I “was very effective in facilitating learning and demonstrated a very high competence in being able to engage students in activities and/or challenge students to think about the concepts via the use of questions and clear explanations. This would demonstrate a student centred mode of T&L”.
- Develop classroom plans adjusted to the comprehension level of students.
- Possess effective classroom time management.
- Have taught undergraduate and postgraduate courses.
- Experienced in marking assignments in the forms of computer codes and reports.

- **Public speaking and research presentation**

Have delivered research seminar talks and a conference tutorial.

- **Software knowledge and development**

- Excellent proficiency in *C*, *Java*, *C++*, *Pascal*, *BASIC*, *Perl*, and *PHP*. Also fairly well in analysis and design using *UML*.
- Lead the maintenance of the RMIT Fanimae music search engine (<http://mirt.cs.rmit.edu.au/fanimae>), part of the RMIT University’s Music Information Retrieval Tools project and three open source software projects, oakpark (<http://oakpark.sourceforge.net>), Dioler (<http://dioler.sourceforge.net>), and IOCS (<http://iocs.sourceforge.net>).

- **Cultural Diversity Awareness**

- Speak and write English and Indonesian fluently.
- Have taught students of various cultural backgrounds.

## PROFESSIONAL EXPERIENCES

- **February 2008–present: Analyst programmer**

Linfox Armaguard Pty Ltd, Melbourne, Australia.

Responsibilities: Implementing and maintaining business systems to support the operations of the company and writing functional specifications and various documentations. Contributed a paper to the Firebird project on how to set up the Apache HTTPD server to run PHP applications that connect to Firebird databases (<http://tinyurl.com/27jczl>).

- **March 2002–February 2008: Sessional teaching staff**

School of Computer Science and Information Technology, RMIT University, Melbourne, Australia

Responsibilities:

- Lecturing “Database Concepts” (2007) and “Programming Techniques” (2008). Responsibilities include large-scale classroom teaching, writing up assessment materials (quiz questions, assignments, and examination questions), directing teaching staff, responding to students’ queries, and reporting to the course manager.
- Writing up the laboratory sheets for “File Structures and Database Systems” for use by the African Virtual University as part of strategic course renewal (2005).
- Marking examination papers for “Database Systems” (2005 and 2007), “Programming Principles 2B” (2005), “Database Concepts” (2006–2007), and “Information Retrieval” (2007).
- Head-tutoring “Database Systems” (2005 and 2007), “Introduction to Database Systems” (2006), and “Information Retrieval” (2007). Responsibilities include writing up assignments and marking guides, maintaining assignment homepages containing a set of frequently asked questions and answers, responding to students’ queries (face-to-face and electronically), and organising meetings.
- In-class assistive teaching for the following courses:
  - \* As tutor:
    1. “Database Concepts”/“Introduction to Database Systems” (2004 and 2006).
    2. “Database Systems”/“File Structures and Database Systems” (2004 and 2006–2007).
    3. “Information Retrieval” (2007).
    4. “Operating Systems” (2003–2004).
    5. “Programming Techniques” (2005).
    6. “Web Media Technologies” (2005).
  - \* As laboratory assistant:
    1. “Algorithms and Analysis”/“Programming Principles 2B” (2004 and 2007).
    2. “Computing Fundamentals” (2002).
    3. “Database Concepts”/“Introduction to Database Systems” (2007).

4. “Operating Systems” (2003).
5. “Programming Techniques” (2005).
6. “Unix Induction Sessions” (2002–2003).
7. “Web Media Technologies” (2005).

- **December 2003–February 2008: Developer and maintainer of *MIRT* and *Fanimae*, RMIT music search engines**

School of Computer Science and Information Technology, RMIT University, Melbourne, Australia.

Responsibilities: Designing the architecture and file structures and implementing various components of MIRT (mainly using C and Perl), including a web-based front-end, an indexer, a query parser, and an answer ranking module. The desktop version, Fanimae, has been ranked third in the Music Information Retrieval Exchange 2005 competition. MIRT is online at <http://mirt.cs.rmit.edu.au>. Fanimae can be downloaded from <http://mirt.cs.rmit.edu.au/fanimae>.

- **March–December 2001: Trainer and system administrator**

3WI Indonesia, Jakarta, Indonesia

Responsibilities: Teaching web development technologies (Java, Perl, PHP, HTML, CSS, JavaScript, and WML), and administering the server for student project hosting purpose (using Apache HTTP Server and Apache Tomcat). Also co-developed “WAP Development” course materials (which include writing dynamically generated WML pages).

- **May 2000–March 2001: Webmaster**

PT Gerbang Niaga Indotama (*TheWheelKom*), Jakarta, Indonesia

Responsibilities: Developing a trading portal and a demonstration website for clients. PHP and MySQL were mainly used.

- **September 1997–January 1999: Class and laboratory tutor for Basic Physics.**

Department of Physics, University of Indonesia, Depok, Indonesia.

Responsibilities: Delivering tutorials in classes and laboratory, writing and marking quizzes, helping students troubleshoot laboratory-related problems. Materials included classical mechanics, electromagnetism, and optics.

- **November 1995–October 1998: Consultation columnist.**

MIKRODATA (an Indonesian computing magazine), Jakarta, Indonesia.

Responsibilities: Answering the magazine readers’ questions and presenting them in a column. Also responded questions asked via telephone. Questions were related to software and hardware up-to-date technologies, programming, security, and various other topics in information technology.

## RESEARCH AND PUBLICATIONS

Research interests: music information retrieval, information technology education, software engineering, approximate string matching, algorithms and data structures for information retrieval, and document engineering.

## Journal articles

1. **I. S. H. Suyoto**, A. L. Uitdenbogerd, and F. Scholer. Searching musical audio using symbolic queries. In M. Slaney, D. P. W. Ellis, M. Sandler, M. Goto, and M. M. Goodwin, editors, *IEEE Transactions on Audio, Speech and Language Processing* 16(2), pages 372–381, Piscataway, New Jersey, IEEE, February 2008.
2. A. L. Uitdenbogerd and **I. S. H. Suyoto**. Microtonal matching with MTRI. In W. B. Hewlett and E. Selfridge-Field, editors, *Computing in Musicology* 14, pages 171–180, Cambridge, Massachusetts, MIT Press, August 2006.

## Refereed conference papers

3. **I. S. H. Suyoto** and A. L. Uitdenbogerd. The effect of using pitch and duration for symbolic music retrieval. In R. McArthur, P. Thomas, A. Turpin, and M. Wu, editors, *Proceedings of the Thirteenth Australasian Document Computing Symposium*, pages 41–48, Hobart, Australia, December 2008.  
*This paper won the Best Paper Award at the symposium.*
4. **I. S. H. Suyoto**, A. L. Uitdenbogerd, and F. Scholer. Effective retrieval of polyphonic audio with polyphonic symbolic queries. In J. Z. Wang, N. Boujemaa, A. Del Bimbo, and J. Li, editors, *Proceedings of the 9th ACM SIGMM International Workshop on Multimedia Information Retrieval*, pages 105–114, Augsburg, Germany, September 2007.
5. **I. S. H. Suyoto** and A. L. Uitdenbogerd. Effectiveness of note duration information for music retrieval. In L. Zhou, B. C. Ooi, and X. Meng, editors, *Proceedings of the International Conference on Database Systems for Advanced Applications*, pages 265–275, Beijing, China, April 2005. Published as LNCS 3453.
6. **I. S. H. Suyoto** and A. L. Uitdenbogerd. Exploring microtonal matching. In C. L. Buyoli and R. Loureiro, editors, *Proceedings of the International Conference on Music Information Retrieval*, pages 224–231, Barcelona, Spain, October 2004.

## Books

7. A. Kent, D. H. O'Dell, A. Chase, J. Rosa, S. Abraham, **I. S. H. Suyoto**, and K. Apshankar, *Professional PHP4 Multimedia Programming*, Wrox, 2002. ISBN: 1-861007-64-7.

## Non-refereed conference papers

8. A. L. Uitdenbogerd, F. Scholer, **I. S. H. Suyoto**, P. Somerville, D. K. Kumar, and V. Ciesielski. RMIT MIRT Research Group Report 2009. In the 10th International Society for Music Information Retrieval Conference, October 2009.
9. **I. S. H. Suyoto** and A. L. Uitdenbogerd. Simple efficient  $n$ -gram indexing for effective melody retrieval. In *Proceedings of the First Annual Music Information Retrieval Evaluation eXchange*, 2005.
10. **I. S. H. Suyoto**. Calculation of radial distribution function using Excel. In *Prosiding Kongres Ikatan Himpunan Mahasiswa Fisika Indonesia (Proceedings of the Indonesian Federation of Physics Student Association Congress)*, Bogor, Indonesia, 1999.

## Theses

11. **I. S. H. Suyoto.** *Cross-domain Content-based Retrieval of Audio Music through Transcription.* PhD thesis, School of Computer Science and Information Technology, RMIT University, Melbourne, Australia, 2008.
12. **I. S. H. Suyoto.** *Microtonal Music Information Retrieval.* Master's thesis, School of Computer Science and Information Technology, RMIT University, Melbourne, Australia, 2003.
13. **I. S. H. Suyoto.** *Identification of Crystal System: Computational Method and Implementation Using Java 2 Platform.* Sarjana Sains thesis, Department of Physics, University of Indonesia, Depok, Indonesia, 2001.

## NON-ACADEMIC ACTIVITIES

- Affiliated with Naqshbandi Sufi Order of Australia, an association for sufism.
- An independent recording and performing musician: <http://adeishs.com>. Co-founder, pianist, and keyboardist of Gadsby, a jazz band.

## INTERESTS

Spirituality, holistic healing, music (composition and performance), and photography.

## REFEREES

The list of my referees is available upon request.