

## AZIZ NANTHAAMORNPHONG

Department of Information and Communication Technology  
Faculty of Technology and Environment  
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### RESEARCH INTEREST

I am particularly interested in the use of software engineering practices in scientific software development. For example, agile methods, test-driven development, design patterns. In addition to work on scientific software, my research extends to empirical software engineering, software quality, software maintenance, software development process, software architecture, reverse engineering, and data science in software engineering.

### EDUCATION

**Ph.D. in Computer Science**, University of Alabama, USA, 2014

Major Field of Study: Software Engineering

Thesis : *The Effectiveness of Test-Driven Development and Refactoring Techniques in Computational Science and Engineering Software Development*

**Master of Science in Information Technology**, Kasetsart University, Thailand, 2002

Thesis : *The Study of JXTA Technology and Case Study of the Program Development on Peer-to-Peer Networking*

**Bachelor of Engineering**, Thammasat University, Thailand, 1999

Major: Industrial Engineering

Senior Project : *Management Information System for the Faculty of Engineering*

### ACADEMIC WORK EXPERIENCE

**Assistant Professor**, Prince of Songkla University, Thailand, 06/2016 - Present

**Chair of Master of Science Program in Information Technology**, Department of Information and Communication Technology, Faculty of Technology and Environment, Prince of Songkla University, Phuket campus, Thailand, 05/2014 - Present

**Lecturer**, Department of Information and Communication Technology, Faculty of Technology and Environment, Prince of Songkla University, Phuket campus, Thailand, 05/2014 - 06/2016

**Visiting Researcher**, Combustion Research Facility, Sandia National Laboratories, Livermore, California, USA, 08/2012 - 12/2012

**Guest Lecturer**, Department of Information and Communication Technology, Faculty of Technology and Environment, Prince of Songkla University, Phuket campus, Thailand, 2007 - 2009

**Research Assistant**, Faculty of Engineering, Thammasat University, Bangkok, Thailand, 1999-2001

### TEACHING EXPERIENCE

**Lecturer**

- Statistics for Information Technology (Graduate) - 2015 (1st semester), 2016 (2nd semester)
- Advanced Empirical Software Engineering (Graduate) - 2015 (2nd semester), 2016 (2nd semester)

- Software Consturction and Maintenance (Undergraduate) - 2014 (1st semester), 2015 (1st semester)
- Advanced Object Oriented Programming (Undergraduate) - 2014 (2nd semester), 2015 (2nd semester)
- Software Architecure (Undergraduate) - 2014 (2nd semester), 2016 (2nd semester)
- Component Based Software Development (Undergraduate) - 2014 (2nd semester)

#### **Guest Lecturer**

- Software Quality Assurance (Undergraduate) - 2009 (1st semester)
- Object Oriented Analysis and Design (Undergraduate) - 2007 (1st semester) 2008 (1st semester)
- Software Architecture (Undergraduate) - 2007 (2nd semester), 2008 (2nd semester)

#### **STUDENTS (graduation dates)**

##### PhD Student

- Kulsiri Jirayoot (5/2018)

##### Master Students

- Apatta Chaisutanon (5/2017)
- Suchada Pongphom (5/2017)
- Thanyarat Kitpanich (5/2018)
- Anawat Leatongkam (5/2018)

#### **INDUSTRY WORK EXPERIENCE**

**Executive System Analyst**, Software Industry Promotion Agency (SIPA), Ministry of Information and Communication Technology, Phuket branch, Thailand, 2005-2009

**Project Leader**, Northstar Infosys Co., Ltd., Bangkok, Thailand, 2002-2005

**Junior Developer**, Drumbeat Digital (Thailand) Co., Ltd., 2001-2002

#### **PROFESSIONAL ACTIVITIES**

##### **Program Committees**

- The 2015 Workshop on Software Engineering, Phuket Thailand, 2015
- The 7th National Conference on Information Technology, Chiangmai, Thailand, 2015
- Asia-Pacific Workshop on Software Engineering for Computational Science and Engineering, Bangkok, Thailand, 2013
- ACM Southeast Conference, Gatlinburg, Tennessee, USA, 2012

##### **Session Moderator**

- The 2015 Workshop on Software Engineering, Phuket Thailand, 2015
- The 7th National Conference on Information Technology, Chiangmai, Thailand, 2015

##### **Reviewer**

- Information and Software Technology, 2016
- Computing in Science & Engineering, 2016
- The 7th International Conference on Information Technology and Electrical Engineering, 2015
- The 7 th National Conference on Information Technology, 2015
- Empirical Software Engineering and Measurement, 2012-2014
- International Symposium on Software Reliability Engineering, 2013
- International Workshop on Replication in Empirical Software Engineering Research, 2013

- Journal of Software: Practice and Experience, 2013

### Training

- Introduction to Data Science, Bangkok, Thailand, June 2-3, 2016
- Object-Oriented Programming in Fortran, University of California at Berkeley, California, USA, 03/2012
- Evaluating Software Architecture, Software Park, Bangkok, Thailand, 05/2008
- Software Project Estimation and Measurement, Software Park, Bangkok, Thailand, 11/2007
- Project Management for CMM, Compulink System Ltd., Pune, India, 06/2005

### HONORS & AWARDS

- Travel Stipend, The 2017 International Workshop on Software Engineering for Science
- Travel Stipend, The National University of Singapore (NUS) SoC Research Workshop 2017
- Travel Stipend, The 4th International Workshop on Software Engineering for High Performance Computing in Computational Science and Engineering
- Best Session Speaker, The 8th International Conference on Advanced Computer Science and Information Systems, 2016
- Best Paper Award, The 8th Malaysian Software Engineering (MySEC), 2014
- Royal Thai Government Scholarship (Ph.D. level), 2008 - 2014
- Outstanding undergraduate student, Faculty of Engineering, Thammasat University, 1997

### PUBLICATIONS

#### Refereed Journals

- Aziz Nanthaamornphong and Anawat Leatongkam, *Modern Fortran Transformation Rules for UML Sequence Diagrams*, Journal of Telecommunication, Electronic and Computer Engineering, 2017 (accepted)
- Aziz Nanthaamornphong and Thanyarat Kitpanich, *The Study of Code Reviews based on Software Maintainability in Open Source Projects*, Journal of Telecommunication, Electronic and Computer Engineering, 2017 (accepted)
- Aziz Nanthaamornphong, Saknarong Pomwong, Kwanrudee Klebkaew, and Napawan Jindamane, *Squirrel: A Code Snippet Repository*, Journal of Telecommunication, Electronic and Computer Engineering, 2017 (accepted)
- Jonathan Krein, Lutz Prechelt, Natalia Juristo, Aziz Nanthaamornphong, Jeffrey Carver, Sira Vegas, Charles Knutson, Kevin Seppi, Dennis Eggett, *A Multi-Site Joint Replication of a Design Patterns Experiment Using Moderator Variables to Generalize across Contexts*, IEEE Transactions on Software Engineering, vol.42, no.4, pp. 302-321, 2016.
- Aziz Nanthaamornphong and Rattana Wetprasit, *Evaluation of the Visitor Pattern to Promote Software Design Simplicity*, Jurnal Teknologi, vol. 77, no. 9, pp. 61-77, 2015.
- Aziz Nanthaamornphong and Jeffrey Carver, *Test-Driven Development in scientific software: a survey*, Software Quality Journal, pp. 1-30, 2015 (First online)
- Aziz Nanthaamornphong, Jeffrey Carver, Karla Morris, and Salvatore Filippone, *Extracting UML Class Diagrams from Object-Oriented Fortran: ForUML*, Scientific Programming, vol. 2015, Article ID 421816, 15 pages, 2015
- Aziz Nanthaamornphong, Jeffrey Carver, Karla Morris, Hope A. Michelsen, Damian W. I. Rouson, *Building CLiME via Test-Driven Development: A Case Study*, Computing in Science & Engineering, vol.16, no. 3, pp. 36-46, May-June 2014.

**Refereed Conference & Workshop Papers (International)**

Anawat Leatongkam, Aziz Nanthaamornphong, and Damian W. Rouson, *WIP: Generating Sequence Diagrams for Modern Fortran*, The 2017 International Workshop on Software Engineering for Science Held during ICSE 2017, pp. 22-23, Buenos Aires, May 22, 2017 (accepted)

Aziz Nanthaamornphong, *A Case Study: Test-Driven Development in a Microscopy Image-Processing Project*, The 4th International Workshop on Software Engineering for High Performance Computing in Computational Science and Engineering (SE-HPCCSE16) co-located with Super Computing 2016, pp. 9-16, Salt Lake City, Utah, USA, Nov, 2016

Aziz Nanthaamornphong and Rattana Wetprasit, *A Case Study: Adoption of Agile in Thailand*, The 8th International Conference on Advanced Computer Science and Information Systems, pp. 585-590, Malang, Indonesia, October, 2016.

Aziz Nanthaamornphong and Apatta Chaisutanon, *Empirical Evaluation of Code Smells in Open Source Projects: Preliminary Results*, The 1st International Workshop on Refactoring (IWor 2016) in Conjunction with ASE 2016, pp.5-8, Singapore, 2016.

Aziz Nanthaamornphong, Anawat Leatongkam, Thanyarat Kitpanich, and Pongsakorn Thongnuan, *Bytecode-based Class Dependency Extraction Tool: Bytecode-CDET*, The 7th International Conference on Information Technology and Electrical Engineering, pp. 6-11, Chiangmai, Thailand, 2015

Aziz Nanthaamornphong and Rattana Wetprasit, *A Controlled Experiment: Do Visitor Patterns Improve Software Simplicity*, The 8th Malaysian Software Engineering (MySEC), pp. 90-95, Langkawi, Malaysia, 2014

Aziz Nanthaamornphong, Karla Morris, Salvatore Phillipone, *Extracting UML class diagrams from object-oriented fortran: Formul*. The 1st International Workshop on Software Engineering for High Performance Computing in Computational Science and Engineering in Conjunction with SC13, pp. 9-16, Colorado, Denver, USA, 2013

Aziz Nanthaamornphong, *A Pilot Study: Design Patterns in Parallel Program Development*, The 1st International Workshop on Software Engineering for High Performance Computing in Computational Science and Engineering in Conjunction with SC13, pp. 17-20, Colorado, Denver, USA, 2013

Aziz Nanthaamornphong, Karla Morris, Hope A. Michelsen, Damian W. I. Rouson, *A Case Study: Agile Development in the Community Laser-Induced Incandescence Modeling Environment (CLiME)*, The 6th International Workshop on Software Engineering for Computational Science and Engineering in Conjunction with ICSE'13, pp. 9-18, San Francisco, California, USA, 2013

Aziz Nanthaamornphong, Jeffrey Carver, *Design Patterns in Software Maintenance: An Experiment Replication at University of Alabama*, The 2nd International Workshop on Replication in Empirical Software Engineering Research, pp. 15-24, Alberta, Canada, 2011.

**Refereed Conference & Workshop Papers (National)**

Anawat Leatongkam and Aziz Nanthaamornphong, *Modern Fortran Transformation Rules for UML Sequence Diagrams*, The 13th National Conference on Computing and Information Technology (NCCIT 2017), Bangkok, Thailand, 2017 (accepted).

Thanyarat Kitpanich and Aziz Nanthaamornphong, *The Empirical Evidence on Software Maintainability in Open Source Projects*, The 13th National Conference on Computing and Information Technology (NCCIT 2017), Bangkok, Thailand, 2017 (accepted).

Aziz Nanthaamornphong, Weerayut Hongsa, Nimaslan Auseng, and Chanwit Julrod, *The Log File Management with AirLog*, The 12th National Conference on Computing and Information Technology (NCCIT 2016), pp. 292-297, Khon Kaen, Thailand, 2016.

Rattana Wetprasit and Aziz Nanthaamornphong, *Phuket Smart City and the Needs of its Population*, The 12th National Conference on Computing and Information Technology (NCCIT 2016), pp.599-604, Khon Kaen, Thailand, 2016.

Suchada Pongprom, Aziz Nanthaamornphong, and Rattana Wetprasit, *Encouraging Students' Interest in Software Development by Test-Driven Development*, The 12th National Conference on Computing and Information Technology (NCCIT 2016), pp.478-483, Khon Kaen, Thailand, 2016 .

Apatta Chaisutanon, Aziz Nanthaamornphong, and Rattana Wetprasit, *Code Smell Influences in the Code Review for Open Source Software Projects*, The 12th National Conference on Computing and Information Technology (NCCIT 2016), pp.170-175, Khon Kaen, Thailand, 2016.

Aziz Nanthaamornphong and Kittinun Klitnusorn, *The Code Snippet Repository*, The 7th National Conference on Information Technology, pp. 81-86, Chiangmai, Thailand, 2015

### **Technical Report**

Aziz Nanthaamornphong, Jeffrey Carver, Karla Morris, Salvatore Phillipone, *A lightweight uml-based reverse engineering for object-oriented fortran: Foruml*, Technical Report SERG-2013-02, Department of Computer Science, The University of Alabama.