

# Danar Heri Kurniawan

The Founder of [Sci-Learn.com](https://Sci-Learn.com) and [Gudhang.com](https://Gudhang.com)  
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Research Interests: Parallel and Distributed System, Computational Science, and e-Learning.



## EDUCATION

2012 - 2017     **Institut Teknologi Bandung (ITB)**, Bandung, Indonesia  
Bachelor in Computer Science, graduated with cum laude and GPA 3.54 out of 4.00

## PUBLICATIONS ( <https://daniarheri.com/pubs.html> )

**"Sci-Learn: A Novel E-Learning Platform Based on Gamification and Social Media Approach"** [Danar H. Kurniawan](#) and Yani Widyani, *International Conference on Electrical Engineering and Informatics (ICEEI) in Langkawi, Malaysia*, November 2017.

**"PBSE: A Robust Path-Based Speculative Execution for Degraded-Network Tail Tolerance in Data-Parallel Frameworks"** Riza O. Suminto, Cesar A. Stuardo, Alexandra Clark, Huan Ke, Tanakorn Leesatapornwongsa, Bo Fu, [Danar H. Kurniawan](#), Vincentius Martin, Uma Maheswara Rao G., and Haryadi S. Gunawi, *ACM Symposium on Cloud Computing (SoCC) in Santa Clara, CA, USA*, September 2017.

**"Double Chaining Algorithm: A Secure Symmetric-key Encryption Algorithm"** [Danar H. Kurniawan](#) and Rinaldi Munir, *International Conference on Advanced Informatics: Concepts, Theory and Application (ICAICTA) in Penang, Malaysia*, August 2016.

**"Development of Multi Agent for Test of Recommendation Functions on Social Learning Platform"** Shinobu Hasegawa and [Danar H. Kurniawan](#), *The Institute of Electronics, Information and Communication Engineers (IEICE) in Nagano, Japan*, May 2016.

**"A New String Matching Algorithm Based on Logical Indexing"** [Danar H. Kurniawan](#) and Rinaldi Munir, *International Conference on Electrical Engineering and Informatics (ICEEI) in Bali, Indonesia*, August 2015.

## POSTERS

**"SCK: Scale-Checking and Debugging Scalability Bugs on One Machine"** Tanakorn Leesatapornwongsa, Cesar Stuardo, Huan Ke, Jeffrey F. Lukman, Riza O. Suminto, [Danar H. Kurniawan](#), and Haryadi S. Gunawi, *Greater Chicago Area Systems Research Workshop (GCASR) in Chicago, IL, USA*, April 2017.

**"PBSE: A Robust Path-Based Speculative Execution"** Riza O. Suminto, Cesar Stuardo, Alexandra Clark, Huan Ke, Tanakorn Leesatapornwongsa, Bo Fu, [Danar H. Kurniawan](#), Vincentius Martin, and Haryadi S. Gunawi, *Greater Chicago Area Systems Research Workshop (GCASR) in Chicago, IL, USA*, April 2017.

**"SCK: Scale-Checking and Debugging Scalability Bugs on One Machine"** Tanakorn Leesatapornwongsa, Cesar Stuardo, Huan Ke, Jeffrey F. Lukman, Riza O. Suminto, [Danar H. Kurniawan](#), and Haryadi S. Gunawi, *The 12th USENIX Symposium on Operating Systems Design and Implementation (OSDI) in Savannah, GA, USA*, November 2016.

**"Distributed Message Broker and NoSQL Database Technology for E-Learning Platform"** [Danar H. Kurniawan](#), *Toyohashi University of Technology (TUT) International Student Program in Toyohashi, Aichi, Japan*, November 2016.

**"Smart Garbage Disposal System in Bandung City: Deployment of SISA apps and Implementation of Coupled Manganese Ion Bio digester"** [Danar H. Kurniawan](#), Rakhmatullah Y. Sutrisna, Bintang S. Puntodewo, and Ruli Fatmawati, *Tokyo Tech Indonesian Commitment Award (TICA) in Tokyo, Japan*, September 2016.

**"Uncovering Latent Scalability Bugs in Just One Machine"** Tanakorn Leesatapornwongsa, Huan Ke, Cesar Stuardo, [Danar H. Kurniawan](#), and Haryadi S. Gunawi, *Greater Chicago Area Systems Research Workshop (GCASR) in Chicago, IL, USA*, April 2016.

## TALKS

- Nov 2017 **“Sci-Learn: A Novel E-Learning Platform Based on Gamification and Social Media Approach”** at *International Conference on Electrical Engineering and Informatics (ICEEI)* in Langkawi, Malaysia.
- Aug 2017 **“Developing Augmented Reality 3D Model of Ab Barak Landslide on Microsoft Hololens”** at The European Organization for Nuclear Research (CERN) *Openlab Summer Student Lightning Talks* in Meyrin, Switzerland.
- Aug 2016 **“Double Chaining Algorithm: A Secure Symmetric-Key Encryption Algorithm”** at *International Conference on Advanced Informatics: Concepts, Theory and Application (ICAICTA)* in Penang, Malaysia.
- Aug 2015 **“A New String Matching Algorithm Based on Logical Indexing”** at *International Conference on Electrical Engineering and Informatics (ICEEI)* in Bali, Indonesia.

## EXPERIENCES

- Sep 2015 - Present **Computer System Group, The University of Chicago**  
*Research Student*
- Research areas of this group are cloud computing and distributed system. This Lab is run by PhD students of UChicago under supervision of their professors.
  - Focus on studying bugs at cloud computing and distributed systems such as Hadoop and Spark.
  - Having weekly report and assignment that teach me to stay productive even under pressure.
- Jul 2017 - Sep 2017 **IT-CDA Group, CERN Openlab Summer Student Program**  
*[Internship] Research Student - Geneva, Swiss*
- CERN Openlab and the IT-CDA Group in collaboration with UNOSAT are investigating novel technologies for facilitating satellite maps navigation and comparisons using VR.
  - There were only 37 international students selected among 1580 applicants from all around the world.
  - I developed an animated 3D model of Ab-Barak landslide on Microsoft Hololens.
- Nov 2016 (10 Days) **Computer Science Laboratories, Toyohashi University of Technology**  
*ITB's representative at TUT International Student Program 2016 - Toyohashi, Japan*
- TUT is among an elite group of 22 universities selected for the Japanese government funded program (the program for promoting enhancement of research universities).
  - I shared my experience and my research plan that tailored to TUT's research activity.
  - I got an offer to do the research at TUT as part of Master Degree Research Program.
- Jul 2016 - Nov 2016 **AIESEC in Bandung**  
*International Relation Coordinator - Bandung, Indonesia*
- In 1949, AIESEC was established at Stockholm Congress. AIESEC is now present in more than 125 countries, with more than 80,000 members and 5,000 partners.
  - International relation is a collaboration among entities (Local Committees) to support each other in terms of exchanging member and giving the best experience that AIESEC has promised.
- Dec 2015 - Feb 2016 **Hasegawa Laboratory, Japan Advanced Institute of Science and Technology**  
*[Internship] Research Student - Ishikawa, Japan*
- We were developing Sci-Learn, e-Learning platform, and also the multi agent system to simulate user's behavior and evaluate the new feature of Sci-Learn. (<https://sci-learn.com>).
  - Sci-Learn is developed for scalability purpose.
  - The general idea of Sci-Learn is to combine Social Network (Facebook, LinkedIn, Google+) with gamification to increase learners' engagement.
- Sep 2015 - Nov 2015 **Multibook Development Team, TD&Company Limited**  
*[Internship] Software Engineer - Tokyo, Japan*
- The main businesses of this company are SAP consulting service, global helpdesk service, system service, and management service. There are seven overseas branches including Singapore, Netherland, and Germany.
  - Evaluating the database architecture and running software testing for its new ERP System, Multibook.
  - Implementing authentication module in Spring Framework controller and Angular JS controller that will be used at more than 50 modules.

Jun 2015 - Jul 2015	<b>Global Digital Prima (GDP) Venture Inc.</b> <i>[Internship] Software Engineer - Jakarta, Indonesia</i>	<ul style="list-style-type: none"> <li>GDP Venture is one of the leading strategic investor located in Jakarta. They invest in early and growing stages of new Tech companies such as Kaskus and Blibli.</li> <li>Reduced 98% query time and 50% query time respectively by migrating databases to Amazon Redshift and by optimizing the query for data retrieval.</li> </ul>
Feb 2015 - May 2015	<b>AIESEC Local Committee</b> <i>Assessment Team - Bandung, Indonesia</i>	<ul style="list-style-type: none"> <li>Improving my English skills drastically since we use it in every single AIESEC's task.</li> <li>Experiencing cultural exchange with Japanese, Thai, Chinese, Brazilian, Australian, and others.</li> </ul>
Dec 2014 - Jan 2015	<b>AIESEC Student Exchange Program</b> <i>Volunteer at Sawasdee Project - Bangkok, Thailand</i>	<ul style="list-style-type: none"> <li>I taught and shared my knowledge to the student and the teacher in rural area of Thailand about English and Indonesian culture.</li> <li>Helping Chulalongkorn University's Local Committee to manage badly treated intern and find him a new school to teach.</li> </ul>
Jun 2014 - May 2015	<b>Student Association of Institut Teknologi Bandung</b> <i>Deputy Chief of Internal Relation Division</i>	<ul style="list-style-type: none"> <li>I was the part of Cabinet (the highest executive organization) at Institut Teknologi Bandung who manage and run student association.</li> <li>Increasing the number of students who join Student Association Cabinet by 40% in 2014, this led to the higher student participation in every cabinet's program.</li> </ul>
Jan 2014 - Present	<b>Syamsi Dhuha Foundation (SDF)</b> <i>Member (Volunteer) - Bandung, Indonesia</i>	<ul style="list-style-type: none"> <li>SDF is an NGO that do research and share the awareness about lupus and low vision.</li> <li>Awarded Sasakawa Health Prize 2012 by WHO for having an innovative programs.</li> <li>Managing and running the biggest World Lupus Day and World Sight Day celebrations in Indonesia.</li> <li>Inspiring the other member to keep doing their best despite their disease and difficulty.</li> </ul>

## COMPETITIONS & AWARDS

3 <sup>rd</sup> Place	I participated in <b>CERN's annual hackathon</b> (Webfest 2017) by developing ParticleDart. <b>ParticleDart</b> is an AR apps built on the top of <b>Microsoft Hololens</b> which aims to impart an intuition about the types and the behaviors of particles using a new technology.	2017
1 <sup>st</sup> Place	<b>FoodsFaculty.com</b> aims to facilitate the growing popularity of local brands, thus giving them a larger portion of market share. <b>We won \$7000 in IBM-STEI</b> competition.	2015
Semifinalist	<b>CariKos.id</b> is a web application for searching, booking, and even advertising rented rooms. This project is funded by Indonesian Ministry of High Education.	2015
1 <sup>st</sup> Place	<b>Chemistry Olympiad</b> - University of Brawijaya, Malang, Indonesia.	2012
Semifinalist	<b>Mathematics Olympiad</b> - Islamic University of Malang (UNISMA), Malang, Indonesia.	2012
2 <sup>nd</sup> Place	<b>National paper writing contest</b> at University of Jakarta. We built a tool to optimize industry's air pollution filtration using NaOH.	2011
1 <sup>st</sup> Place	<b>National Science Olympiad (Physics)</b> – Trenggalek District Level	2011

## ACHIEVEMENTS

Offered an Internship	Accepted to join the <b>HDE Global Internship Program in Japan</b> . HDE, Inc. is a leading cloud-based security provider in Japan. Their service HDE One owns over 74% of market share in Microsoft Office 365/Google Apps targeted security service area in Japan.	2017
Scholarship	<b>Granted scholarships for monthly expenses</b> from the following organizations: KSE (Karya Salemba Empat), SDF (Syamsi Dhuha Foundation), and Kemenristekdikti.	2014
Scholarship	<b>Granted a full scholarship for my tuition fees</b> during my study in Institut Teknologi Bandung. The details can be looked at the official website: <a href="http://www.itbuntuksemua.com">www.itbuntuksemua.com</a>	2013
Training	<b>Dunamis Foundation</b> , 7 Habits of Highly Effective College Student.	2012

**SOFTWARE ENGINEERING PROJECTS ( > 60 Repositories at <https://github.com/daniarherikurniawan> )**

Research on <b>Hadoop and Spark</b>	Joint-research between Surya University-ITB-UChicago.	2017
Sci Learn	E-Learning framework based on gamification and social media approach developed using <b>NodeJS</b> and <b>MongoDB</b> .	2016
File System Viewer	RPC experiments using <b>Apache Thrift</b> as a code generator for distributed system environment	2016
Disaster Management System	Designing and implementing <b>Spatio-Temporal and NoSQL DB</b>	2016
Aileron Mail	Secure android application for messaging, by implementing <b>Elliptical Curve Encryption</b> algorithm	2016
Research on <b>Spark</b>	Joint-research between Surya University-ITB-UChicago	2016
Research on <b>Voldemort</b> and <b>BDB</b>	Joint-research between Surya University-ITB-UChicago	2015
Research on <b>Couchbase</b> and <b>Hadoop</b>	Joint-research between Surya University-ITB-UChicago	2015
Quinna Online Store	WebApp for online shop developed using <b>Laravel Framework</b>	2015
Cari Kos	WebApp for searching rented room developed using <b>Laravel Framework</b>	2015

**SKILLS**

	<ul style="list-style-type: none"><li>• Excellent in some <b>IDEs</b>, including <b>Eclipse, NetBeans, CodeBlock, Unity, Arduino, Unity 3D, and Visual Studio.</b></li></ul>	<ul style="list-style-type: none"><li>• Excellent in some <b>programming languages</b>, including <b>JScript, CSS, C, C#, Scala, Java, PHP, CUDA, C++, JavaScript, SQL, Python, and HTML.</b></li></ul>
<b>Software Engineering</b>	<ul style="list-style-type: none"><li>• Experienced in some database technology, including <b>Dynamo DB, Couchbase, Voldemort, Amazon Redshift, Hadoop, MapReduce, HBase, Spark, MongoDB, PostgreSQL, MySQL, Cassandra, Riak DB, and Berkeley DB.</b></li><li>• Experienced in using such technology like <b>RabbitMQ, Apache Thrift, Jenkins, NginX, npm, and XAMPP.</b></li></ul>	
<b>Language</b>	Excellent both in written and oral English with TOEFL IBT score at <b>94 out of 120.</b>	

**REFERENCES**

<b>Prof. Haryadi S. Gunawi (Supervisor)</b> Neubauer Family Assistant Professor University of Chicago 1100 E. 58th Street, Chicago, IL 60637 Tel: 773-702-5772 Email: haryadi@cs.uchicago.edu <a href="http://people.cs.uchicago.edu/~haryadi/">http://people.cs.uchicago.edu/~haryadi/</a>	<b>Bruno Silva De Sousa (Supervisor)</b> IT Department Service Manager CERN 28/1-006, GENEVE 23, Switzerland CH-1211 Tel: +41 22 767 4374 Email: bruno.sousa@cern.ch <a href="https://www.linkedin.com/in/bssousa/">https://www.linkedin.com/in/bssousa/</a>	<b>Dr. Rinaldi Munir (Lecturer)</b> Computational Engineering Lab. Institut Teknologi Bandung Jl. Ganesha 10, Bandung, Indonesia 40132 Tel: +62-22-2502260 Email: rinaldi@informatika.org <a href="http://informatika.stei.itb.ac.id/~rinaldi.munir/">http://informatika.stei.itb.ac.id/~rinaldi.munir/</a>
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I declare the details stated to be true and complete.  
(CV updated on December 5, 2017)