

# PONGSAKORN U-CHUPALA, Ph.D.

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## EDUCATION

Nara Institute of Science and Technology  
Nara, Japan (2013-2018)

- Doctor of Engineering, Computer Science, Graduate School of Information Science (GPA: 4.00)
- Master of Engineering, Computer Science, Graduate School of Information Science (GPA: 4.00)

Kasetsart University  
Bangkok, Thailand (2008-2013)

- Bachelor of Engineering, Computer Engineering, *Cum Laude* (GPA: 3.54)

## AWARDS AND QUALIFICATIONS

- 990 Points, TOEIC IP, June 2015
- 101 Points, TOEFL iBT, October 2012
- Level N3, Japanese Language Proficiency Test, September 2012
- "Good" Rank, The 1<sup>st</sup> POSN National Computer Olympiad Competition, 2005

## EXPERIENCE

### 2018-present

- Research Engineer at Core System Development Department, R&D Center, Sony Corporation, Japan

### 2017

- Internship at Information Technology Research Institute, AIST, Japan

### 2014

- Visiting Scholar at CalIT2, University of California San Diego, United States

### 2013

- External Researcher at HPCNC Laboratory, Kasetsart University, Thailand
- Developer at Innovate Extremist Co., Ltd.

### 2012

- Google Student Ambassador SEA, Google Inc.
- Outsourced Developer for Onebit Matter Co., Ltd.
- Outsourced Developer for Diversition Co., Ltd.

### 2011

- Exchange Student in FrontierLab@OsakaU Program, Osaka University, Japan

### 2009-2010

- Part-time Developer at Thoth Media Co., Ltd. (now Thoth Social Co., Ltd.)

## SCHOLARSHIPS

- MEXT Scholarship (2015-2018)
- JASSO Scholarship (2011-2012)

## NOTABLE PROJECTS

- **NNabla (2018)**: Sony's MPI-based high-performance deep learning framework. Responsible for distributed learning performance optimization.
- **GainViz (2017)**: Web-based visualization tool for Gainesville city's open-data. Best hack award, CENTRA2 Student Hackathon.
- **Applying Deep Learning to Network Traffic Identification and Categorization (2016-2018)**: The CAIDA Internet traffic dataset is analyzed with stacked denoising autoencoder implemented with TensorFlow. A part of the development an automatic network enhancing cycle with application-aware routing. Also, a part of Creative and International Competitiveness Project (CICP2016) supported by NAIST.
- **Container Rebalancing (2015-2017)**: A novel scheduling mechanism with a rebalancing processing working alongside a scheduling process. A Hadoop/Hive-powered data processing technique and a Python-based simulation using Google's cluster data is performed to validate this method.
- **PRAGMA-ENT (2014-2018)**: Breakable international SDN testbed for PRAGMA community. Shared administration responsibility over multiple sites including NAIST, Osaka University, University of California San Diego, and University of Florida.
- **Overseer: Application-Aware Routing (2013-present)**: OpenFlow controller for bandwidth and latency aware routing implemented with POX.
- **PRAGMA Boot (2013-2014)**: A program to instantiate VM in PRAGMA's cloud. Responsible for OpenNebula plugin written in Ruby.
- **eCOSTamp (2013-2014)**, Electronics collectible stamp platform combining web service, smartphone application and 3D-printed Arduino-based hardware. Part of Creative and International Competitiveness Project (CICP2013) supported by NAIST.
- **Nyanlive (2013)**: A complete solution for creating and maintaining video streaming platform. Responsible for streaming authentication/authorization system and the internal API implemented with Django.
- **ByteArk (2013)**: S3-compatible SEA-based CDN. Part of the team responsible for the internal API.
- **Knowbita (2013)**: Online lecture archive of dept. of computer eng., Kasetsart University. Responsible for the internal API implemented with Django.
- **OBVOC (2012)**: Social media monitoring platform. Responsible for the early version of social media data collection using Python.
- **Kpiology (2010)**: Social media analytics platform. Responsible for the early version of Twitter™ data collection and analytics using Python.
- **Change (2010)**: Web-based multiplayer game inspired by Civilization™ written with Django and jQuery. The 3<sup>rd</sup> place in Web Contest section, National Software Contest (NSC) 2010.
- **Justwords (2007)**: Online quote repository written in PHP with Doctrine and self-developed MVC framework. Best technical award, INET Young Webmaster Camp 6.

## NOTABLE PUBLICATIONS

- H. Mikami, H. Suganuma, [P. U-chupala](#), Y. Tanaka, and Y. Kageyama, "ImageNet/ResNet-50 Training in 224 Seconds", arXiv:1811.05233 [cs.LG], 2018.
- [P. U-chupala](#), Y. Watashiba, K. Ichikawa, S. Date, and H. Iida, "Application-aware network: network route management using SDN based on application characteristics," CSI Transactions on ICT, pp. 1–11, 2017.
- [P. U-chupala](#), Y. Watashiba, K. Ichikawa, S. Date, and H. Iida, "Container Rebalancing: Towards Proactive Linux Containers Placement Optimization in a Data Center," in The 41th IEEE Computer Society International Conference on Computers, Software & Applications (COMPSAC), 2017.
- [P. U-chupala](#), K. Ichikawa, H. Iida, N. Kessraphong, P. Uthayopas, S. Date, H. Abe, H. Yamanaka, and E. Kawai, "Application-Oriented Bandwidth and Latency Aware Routing with OpenFlow Network," in The 6th IEEE International Conference on Cloud Computing Technology and Science (CloudCom), 2014.
- [P. U-chupala](#), P. Uthayopas, K. Ichikawa, S. Date, and H. Abe, "An implementation of a multi-site virtual cluster cloud," in The 2013 10th International Joint Conference on Computer Science and Software Engineering (ICSSSE), 2013, pp. 155–159
- [P. U-chupala](#), K. Ichikawa, H. Abe, S. Date, and S. Shimojo, "A Virtual Cluster Manager using a Hierarchical Management Model for Cloud Infrastructure," in The 6th International Conference on Ubiquitous Information Technologies and Applications (CUTE), 2011.

## AFFILIATIONS

- PRAGMA Student Steering Committee (2015-2018)
- Software Design and Analysis Laboratory (2013-2018)
- Google Developer Group Thailand (2012-present)
- Cybermedia Center, Osaka University (2011-2012)
- High Performance Computing and Networking Center, Kasetsart University (2010-2013)

## SKILLS

- Web Technology and Web Development
- Computer Networking
- Software-Defined Networking and OpenFlow
- HPC, Cluster Computing and Virtual Cluster
- Cloud Computing
- Virtualization and Linux Containers (including Docker)
- Linux Administration
- Data Science and Big Data Analysis
- Machine Learning (including Deep Learning with Tensorflow and NNabla)
- Programming Languages (ordered by proficiency): Python (including Django), C++, PHP, JavaScript
- Languages: Thai (Native), English (Business Proficiency), Japanese (Limited Proficiency)

## LINKS

- Portfolio: [puchupala.com](http://puchupala.com)
- Github: [github.com/puchupala](https://github.com/puchupala)
- LinkedIn: [linkedin.com/in/puchupala](https://www.linkedin.com/in/puchupala)
- ORCID: [orcid.org/0000-0002-8952-661X](https://orcid.org/0000-0002-8952-661X)