SIRIWAT KASAMWATTANAROTE

**BLOCKCHAIN RESEARCH ENGINEER,
STRATEGIC SOFTWARE DEVELOPMENT, SBI BITS**
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SUMMARY

I'm a Ph.D. in Informatics and I pursued my research on visual retrieval, information retrieval, and data mining during my study. Currently, I work as a blockchain research engineer at SBI BITS, with the objective is trying to fit the blockchain technology into several financial application, e.g. distributed FX, AML, and KYC, etc. Hyperledger (HL) was chosen (among other blockchain technologies) for constructing the private chains (rather than other public chain based like Ethereum). Also I intensively worked on an integration between Hyperledger and Docker, especially Docker swarm. Since these two things are not fully compatible yet, so I did a lot research on both technologies to make thing done. And also I'm now involve in joining these communities together.

Technical:
During my Ph.D., I provide several back-end (**C++**, PHP, and MPI) server services with my own implemented inverted index database and a large-scale HDF5 based file to serve a front-end image search interface based **HTML5** and **JavaScript** [LINK]. This system is running on multiple HPC based Linux servers with my customized build of LFS (Linux from scratch) environment.

During the SBI BITS, I learned a lot on financial terms. The technical skills involved in building our blockchain project are **Golang** for understanding the **Hyperledger** framework and creating a **chaincode** and a **consensus** algorithm for our business logic, **Node.js** for building the client side and bridging between the **Hyperledger** and the **Docker swarm**, and the basic utilities with **MongoDB**.

EDUCATIONS

2016 - Ph.D. in Informatics
- 総合研究大学院大学、日本、
  SOKENDAI [The Graduate University for Advanced Studies], Japan
- Research: Large-scale image and video retrieval, information retrieval, and data mining.
- Thesis: "Query Expansion for Visual Search Using Data Mining Approach"

2012 - M.Sc. in Computer Science
- Chulalongkorn University, Thailand
- Major: CSIT (Computer Science and Information Technology), English program
- Thesis: "Automated video surveillance summarization system"
- GPA: 3.63/4.00

2009 - B.Sc. in Computer Science
- Mahidol University, Thailand
- Major: ICT (Information and Communication Technology), English program
- Senior project: "Intelligent Image Resizing"
- GPA: 3.10/4.00

INVITED SPEAKER

Trading Derivatives on Hyperledger [Slide] – LCCC Japan 2016
- Siriwat Kasamwattanarote, Fernando Vazquez
  LinuxCon + ContainerCon, Tokyo, Japan, Jul. 15, 2016

AWARDS

Best Student Poster and Demo Award - WMPA 2014
- Tell me about TV commercials of this product, Siriwat Kasamwattanarote,
  The 1st Winter School on Multimedia Processing and Applications, Dublin, Ireland, Jan. 6-8, 2014

PUBLICATIONS

1. **Query Bootstrapping: A Visual Mining based Query Expansion**
   Siriwat Kasamwattanarote, Yusuke Uchida, and Shin'ichi Satoh, IEICE Transactions on Information and Systems, Vol. E99-D NO. 2, pp 454-466, Feb. 1, 2016.

2. **PVSS: Portable Visual Search Service for Researchers**
   Siriwat Kasamwattanarote and Shin'ichi Satoh, The 7th International Conference on Internet Multimedia Computing and Service (ICIMCS 2015), Zhangjiajie, Hunan, China, pp. 64:1--64:5, Aug. 19-21, 2015.

3. **Tell me about TV commercials of this product**
   Cai-Zhi Zhu, Siriwat Kasamwattanarote, Xiaomeng Wu, and Shin'ichi Satoh, The 20th Anniversary International Conference on MultiMedia Modeling, Dublin, Ireland, pp. 242-253, Jan. 6-10, 2014.

4. **Connect Commercial Films with Realities**
   Cai-Zhi Zhu, Siriwat Kasamwattanarote, Xiaomeng Wu, and Shin'ichi Satoh,
   2013 International Conference on Multimedia Retrieval, Dallas, Texas, USA, pp. 323-324, Apr. 16-20, 2013.

5. **Automated real-time video surveillance summarization framework**
   Nagul Cooharojananone, Siriwat Kasamwattanarote, Shin'ichi Satoh, and Rajalida Lipikorn, Journal of Real-Time Image Processing, Accepted on 16 Sep. 2012. Springer

6. **Real Time Trajectory Search in Video Summarization using Direct Distance Transform**
   Nagul Cooharojananone, Siriwat Kasamwattanarote, Shin'ichi Satoh, and Rajalida Lipikorn, 10th International Conference on Signal Processing, Beijing, China, vol. 6297/2010, pp. 932-935, Oct. 24-28, 2010.

7. **Real Time Tunnel Based Video Summarization using Direct Shift Collision Detection**
   Siriwat Kasamwattanarote, Nagul Cooharojananone, Shin'ichi Satoh, and Rajalida Lipikorn, 11th Pacific Rim Conference on Multimedia, Shanghai, China, pp. 136-147, Sep. 21-24, 2010.

WORK EXPERIENCES

May 2016 to Present – Blockchain research engineer
- at Strategic software development (SSD), SBI BITS, Roppongi, Japan
- Researching a blockchain based framework for a fully distributed trading platform.
- Developing a Japan's first binary options for a liquidity market.
- Applying a Hyperledger for a smart contract problem.
- **Projects**:
  - Blockchain based binary option.
  - Integration of Hyperledger with Docker swarm.
  - Designing the core architecture of a blockchain based AML/KYC solution.
  - Researching and improving the accuracy of AML module.

Oct 2012 to Mar 2016 - Research Assistant

- at Digital Content and Media sciences Research Division,
  国立情報学研究所、National Institute of Informatics [NII], Tokyo, Japan
- **Projects**:
  - Instance search framework for large-scale image and video retrieval
    -- Tasks -- Building a full image retrieval system, e.g. several server side services for handling image queries and a client side HTML5-based UI.
  - NII Commercial film retrieval [Demo: http://www.satoh-lab.nii.ac.jp/~stylix/cf]
    -- Tasks -- Building a client side UI and several server side retrieval modules.
  - NII KAORI, face retrieval system [Demo: http://www.satoh-lab.nii.ac.jp/~stylix/face]
    -- Tasks -- Applying an existing client UI for our Lab's face retrieval backend.
- **Technical skills**: C++, OpenCV, PHP, HTML5, JavaScript, Linux HPC, iOS, Python, etc.

2013 - Summer Internship

- at 楽天技術研究所、Rakuten Institute of Technology [RIT], Shinagawa, Japan
- **Project**:
  - Instance search based image retrieval for character recognition
    -- Tasks -- Using an instance search technique to recognize characters in a natural scene.
- **Technical skills**: C++, OpenCV, PHP, HTML5, JavaScript, CSS, etc.

2011 and 2012 - Internship Student

- at 国立情報学研究所、National Institute of Informatics [NII], Tokyo, Japan
- **Projects**:
  - Agricultural Image Processing System - February to August 2011
    -- Tasks -- Developing a tool to extract useful information from the existing agriculture video collections e.g. growth rate, seasons, day-night, sky-detect, weather, etc.
  - Instance Search Demonstration System - January to June 2012
    -- Tasks -- Building a web interface for sending image query and receiving the related commercial video from Japanese TV.
- **Technical skills**: C# .NET, C++, OpenCV, PHP, HTML5, JavaScript, jQuery, CSS, etc.

2007 - Research and Development (R&D) Intern

- at IWANE Laboratory［岩根］, Bangkok, Thailand
- **Tasks**: Developing a video street view module for a Windows Mobile 6
- **Project**:
  - 3D Video Player for Windows Mobile [for **360-degree** video]
  - 2D Video Player for Windows Mobile [for **300-degree** video]
- **Technical skills**: C# .NET, OpenGL, DirectX, OpenCV, etc.

TECHNICAL EXPERIENCES

- **Programming language and Script**:
  C++ (skillful), C, Node.JS, Python, Go, C#, Java, JavaScript, Bash, Objective-C, HTML5, PHP, CSS, jQuery, SQL, ASP, and Assembly

- **Technology and Library**:
  Docker, MongoDB, Hyperledger, Express, Passport, Elasticsearch, OpenCV, MPI, OpenMP, SQL, HDF5, Hadoop, .NET Framework, WPF, Silverlight, DirectX, OpenGL, Tensorflow

- **Platform**:
  Computer: Linux (HPC, RedHat, CentOS, Ubuntu, Debian), Linux prefix (LFS), Windows
  Mobile: Android, Apple iOS, Windows Phone

- **Development environment**:
  Codelite, VS Code, PyCharm, Codeblocks, Microsoft Visual Studio, XCode, and Eclipse

- **Others**:
  Computer network and infrastructure design, maintenance, and support

PROJECT EXPERIENCES (SELECTED)

- **System and Framework**
  1. NII KAORI Person Search Interface, a wrapper web interface for searching person with video clip results (HTML5, JavaScript, PHP, 2013)
  2. Commercial Film Retrieval, server-client based video retrieval (C++, OpenCV, HTML5, JavaScript, PHP, 2012)
  3. Instance Search, NII student internship project (C++, HTML5, JavaScript, PHP, 2012)

- **Standalone Application**
  1. Agriculture Analyser, NII student internship project (C#, OpenCV, 2011)
  2. Video Surveillance Summarization and Retrieval (C#, OpenCV, 2010)
  3. Seam Carving for Content-Aware Image Resizing: senior project (C#, OpenCV, 2008)
  4. Gesture Analyser for multi-touch gallery (C#, OpenCV, WPF, 2008)
  5. 3D Video Player with GPS based map on Windows Mobile 6.1 (C#, DirectX, 2008)