SIRIWAT KASAMWATTANAROTE

RESEARCH ENGINEER ON BLOCKCHAIN, AI, AND IOT
AI TEAM, BLUE WALL JAPAN
SPLINE BUILDING 6F, 1-19-2 DOGENZAKA, SHIBUYA-KU, TOKYO, 150-0043
MOBILE: (+81)080-4925-4569 **E-MAIL**: SIRIWAT@LIVE.JP, SIRIWAT@BLUEWALL.JPN.COM
WEBSITE: STYLIXBOOM.GITHUB.IO **GITHUB**: GITHUB.COM/STYLIXBOOM

SUMMARY

I'm a Ph.D. in Informatics and I pursued my research on real time large scale **visual retrieval** based on information retrieval and data mining. And I did a very big jump for the recent image search technology by applying a data mining technique to the retrieved result. The achievement on the landmark dataset, e.g. Oxford and Paris 5k, 105k, 1M, are about ***15% accuracy improvement*** beyond the state-of-the-art technology.

Currently, I work as a domain expert, researcher, and architect on Blockchain, AI, and IoT at **Blue Wall Japan** and **lead the frontend dev-team** for one of their project.

Prior to this, l worked as a Blockchain research engineer at **SBI BITS** and did many researches on integrating a blockchain framework (Hyperledger) to Docker, especially Docker swarm. 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 custom build LFS (Linux from scratch) environment.

During SBI BITS, for a blockchain based KYC project, **Golang** play the major role in implementing of a chaincode on a **Hyperledger** framework, **Node.js** and **MongoDB** are used in bridging the gap between two communities; the **Hyperledger** and the **Docker swarm.**

During Blue Wall Japan, I evaluated several open source bitcoin exchanges and build up those system with Docker eco system. I also do research on bitcoin arbitrage with **Python** and **Golang** and to build the arbitrage strategy base on deep learning technique.

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

Jan 2017 to Present – Research engineer on Blockchain, AI, and IoT

- at Blue Wall Japan, Inc., Shibuya, Japan
- Leading the frontend development team for one of the project.
- Researching on blockchain technology, AI, image/information retrieval, and related stuffs.

May 2016 to Dec 2016 – Blockchain research engineer

- at Strategic software development (SSD), SBI BITS, Roppongi, Japan
- Researching a blockchain based framework for a fully distributed trading platform.
- **Projects**:
  - Blockchain based binary option and smart contract.
  - Integration of Hyperledger with Docker swarm.
  - Researching and designing the architecture of a blockchain based AML/KYC solution.

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://www2.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://www2.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)