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### **Profile**

Hands on involvement in transformation projects; regional integration and business expansion to deliver a coherent, consistent and stable business environment. Experienced strategic and process enhancement projects across Front, Middle and Back Office in Institutional Banking.

Development experience covers Pricing Engines, FIX gateway, Order/Trade capture, Indication of Interest and Risk Management Systems. Business knowledge covers mainly Equity and Binary Options, however familiarity with Fixed Income and other type of Derivatives was gained from MBA.

Codes contribution to Kx User Community GitHub. Contributions include development of Implied Risk Neutral Distribution's Computation by recovering index probability distribution from option prices, Estimation of Physical Distribution based on historical data using Gaussian kernel, Portfolio Tracker and Delta Hedging Simulator. Codes are available online at [github.com/shahrzl](https://github.com/shahrzl) or from [Kx Systems](#) GitHub page.

### **Professional Experience**

**Deriv.com( formerly known as Binary.com before re-branding )-Cyberjaya, Nov 2015-Present**

#### **Quantitative Developer**

**Reason for leaving: -**

#### **Description and accomplishments:**

The role involves development of pricing models for binary options, financial data feed handling and processing systems for deriv.com and other tasks and projects related to the deriv.com Quant operations mainly in Perl.

- Recently also contributed to MT5 project through script development using MT5 Web API for client account management purpose.
- Development of open-source projects for deriv.com. Codes are available on Github or from The Comprehensive Perl Archive Network (<https://metacpan.org/author/BINARY>).
  - <https://github.com/binary-com/perl-Performance-Probability>
  - <https://github.com/binary-com/perl-Math-Business-Lookback>
  - <https://github.com/binary-com/perl-Math-BivariateCDF>
  - <https://github.com/binary-com/perl-FIX-Parser>
  - <https://github.com/binary-com/perl-Data-Decimate>
- Development of new feed listener connecting to Panda Trading System (<http://pandats.com/>) as well as refactoring of existing feed listeners.
- Refactoring of deriv.com's Quant-Framework. It is a framework of Perl's object upon which to build Financial Derivatives Pricing Codes. Example of data handled by the framework includes volatility surface, interest rates, economic events etc.
- Refactoring of existing pricing engines such as pricing engines for Asian options and Digit's options.
- Launched new products for the firm such as Lookback, One Touch/No Touch Tick Trade and Reset options.
- Redevelopment of feed data resampling system which is used by the Intraday Forex as well as Tick Expiry pricing engine to compute empirical volatility, market trends etc.
- Bug fix and daily production support.

**Comze System (M) Sdn. Bhd.-Cyberjaya, Aug 2013-Sep 2013**

**Manager (Software Development)**

**Reason for leaving:** Family emergency

**Description and accomplishments:**

Capitalized on software development background to help an MSC status Japanese start up firm establish software development center in Malaysia. Oversee team of local developers in charge with PHP based web applications development for Japanese client.

- Designed the technical interview process for the firm.
- Assisted the CEO in liaising with local government agencies such as Inland Revenue Board of Malaysia, EPF and SOCSO in regards to company registration procedure.
- Hired 2 PHP developers to kick start the development works in Malaysia.
- Development environment setup such as installation of SVN on Linux machine etc.
- Acted as a mediator between the CEO and development team members for the company's first project, which is an internal project for the parent company in Japan.

**Waseda University-Tokyo, Oct 2011-Mar 2013**

**Full time student**

**Nomura Securities Co. Ltd.-Tokyo, Oct 2008-Aug 2011**

**Senior Software Developer**

**Reason for leaving:** To pursue a master's degree

**Description and accomplishments:**

Major responsibility in Nomura shared lots of similarities to Lehman Brothers covering similar ranges of in-house product suites with our APAC team is a part of a larger global Data Services team. Other than development, the nature of this job also required certain aspects of management such as business expectation and change management.

- Integration task between Lehman order/trade capture system and Nomura back-office applications. This integration was crucial because it allowed the usage of Lehman Brothers Algorithmic Trading Platform from Nomura front office trading applications. This project involved development of Java/Tibco based message transformation engine and KDB services to capture orders and executions.
- Transition of Indication of Interest system from Nomura IOI system to the Lehman IOI system, decommission of Nomura FIX engine and implementation of Smart IOI engine enabling automatic generation of IOIs from natural order flows.
- Migration of Level 1 and Level 2 support to Equity RTB team, hence freed up expert developer resources for projects.
- Improved < 10% time-variance to improve on-time project and enhancement execution.
- 3-month rolling average reduction by > 15% for production outages.
- All source code up to date in SVN at any given time.
- Implementation and automation of release procedure using Opaware, which is important for internal audit purpose.
- Implementation of monitoring and notification procedure using Hawk and automated script ran by Autosys.
- Daily production support for order/trade capture system, risk management system and indication of interest system.

**Lehman Brothers Japan Inc.-Tokyo, July 2007-Sep 2008**

**Software Developer**

**Reason for leaving:** Bankruptcy

**Description and accomplishments:**

Overall roles in Asia Data Services team included all the Software Development Life Cycle (SDLC) such as requirement gathering, design, implementation, user acceptance test, deployment as well as operations and management. Asia team was part of a larger global Data Services team with other team members located in London, New York, Mumbai and Sweden.

- Major version upgrade of equity risk management systems. Risk management system in Lehman Brothers is a KDB backend plus Java based front end applications.
- Major version upgrade of indication of interest system for the Asia Pacific region, which included transition to the usage of global codes for external clients to ensure consistencies with other in-house trading platforms as well as functionality enhancements such as FIX gateway implementation for Asia to support field number format.
- Small enhancement for equity risk management systems as per business request from time to time, which includes items such as improvement of trade entry to allow multiple product searches etc.
- Daily production support for the risk management systems and order and execution system. Again, this involved mainly investigation, data queries etc.

**FujifilmCo. Ltd.-Tokyo, May 2004-July 2007**

**Software Developer**

**Reason for leaving:** To pursue a better career opportunity

**Description and accomplishments:**

Major responsibility included conducting research and development activities in the area of digital image processing.

- Designed and implemented in C the optimization of an auto enhanced algorithm targeted for an embedded Linux system running on ARM processor.
- Led the overall architecture design and implementation using C++, C# and Flash Action Script for an interactive image viewer through TV connected devices.
- Conducted research and development activities for content-based image retrieval algorithm using Adaboost and Wavelet analysis. The algorithm was implemented in C++.
- Led a test team for a Japanese mobile phone movie conversion project targeted for major Japanese mobile phone carriers.

**Advanced-I Co. Ltd.-Tokyo, Apr 2002-Feb 2004**

**Software Developer**

**Reason for leaving:** To seek more technical challenges

**Description and accomplishments:**

Responsible to design, develop, document and test business application especially for the financial services.

- Design and implementation of credit management systems for analyzing Japanese Bonds Market including Japanese Government Bonds, Municipal Bonds and Japanese Corporate Bonds base on XML Web Service technology.
- Design and implementations of Currency Exchange and Stock Market database using IBM DB2, the database tools in Java for updating and viewing daily currency exchange and stock market data.
- Design and implementations of Risk Simulation engine in Java, which includes the calculation of VaR (Value at Risk) using Monte Carlo approach.

- Led the specification, architecture design and implementation in C++ of a project for client application for handheld pocket pc running on ARM processor of an Inventory Management Systems.

### **Education**

Waseda University, Tokyo, JPN.

MBA(Finance). March 2013.

The University of Tokyo, Tokyo, JPN.

B.Eng. in Mechano-Informatics (Robotics) Engineering. March 2002.

### **Technical Skills**

Perl, Java, Kdb+ ([www.kx.com](http://www.kx.com)), JIRA Bugtracking, Trello, Redmine, Linux, Windows, TIBCO/Rendezvous, PostgreSQL, DataDog, Circle CI Test Automation.

### **Languages**

Malay: Native

English: Fluent

Japanese: Fluent

### **Hobbies and Interests**

Futsal and soccer. Sports help build networks with people from various backgrounds.

### **References**

Available upon request.