

# LIFU LI

Engineer, CCB Fintech, China Construction Bank, Shanghai

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## Education

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**B.Eng. at Department of Physics**

*Electronic Science and Technology*

**East China Normal University**

2015–2019

**Advisor:** Prof. Min Xu. Shanghai, China.

## Honors and Awards

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- 2022 First prize of Shanghai Financial Innovation Award  
(Group Award, For project on "Derivatives Pricing and Portfolio Management")
- 2021 Outstanding Employee at CCB Fintech (top 10%)
- 2019 Best graduate thesis Award in the class of 2015, Department of Physics
- 2018 National Scholarship (top 2%)
- 2017 Second Prize of Contemporary Undergraduate Mathematical Contest in Modeling  
in Shanghai Division

## Experience

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### Research.....

#### **Preparation of Conductive Hydrogels for Wearable Electronics**

*Undergraduate thesis project, 2018–2019, Advisor: Prof. Min Xu, Department of Physics*

- Synthesized a series of conductive hydrogels with sodium alginate matrix, acrylamide, acrylic acid and potassium chloride
- Characterized the structure of these conductive hydrogels by means of Fourier Transform Infrared Spectroscopic, X-ray Diffraction and Scanning Electron Microscopy
- Assembled a data collection module by using ESP8266EX Wi-Fi MCU which is programmed with C++ on the Arduino IDE
- Developed a Python software involving Socket interface to exhibit the acquired data real-time
- Combined the conductive hydrogel with the data collection module as a resistive wireless flexible sensor for motion sensing

#### **Research on Two-dimensional Code Scanning and Recognition Based on Linear Array CCD**

*Undergraduate Research, 2017–2018, Advisor: Dr. Yaling Yin, Department of Physics*

- Developed a two-dimensional code recognition software with linear array CCD camera SDK, C++ and Visual Basic
- Assembled the experimental platform by using parallel light source system, slide rails, linear array CCD camera and the homemade software
- Executed the experimental protocols, got the full image of a two-dimensional code and parse this code by the recognition software  
(Similar products are sold for about \$6,000 in the local market. This experiment was later selected as one of the optional experiments for undergraduates in the Department of Physics.)

## Research on Molecular Imaging based on Photo-induced Electron Diffraction

*Undergraduate Research, 2016–2017, Advisor: Dr. Hui Li, State Key Laboratory of Precision Spectroscopy*

- Two-color light field synthesized by computer simulation of fundamental frequency light and double frequency light
- Generated femtosecond lasers in the mid-infrared band through femtosecond lasers in the near-infrared band
- Struck oxygen molecules with a femtosecond laser in the mid-infrared band, and measure the three-dimensional momentum distribution of ionized electrons

## Employment.....

### CCB Fintech, China Construction Bank

**Jul. 2019 - Present**

*Engineer, Department of Pricing and Quotation*

Description: The Derivatives Model Pricing Platform consists of Java-based applications and a pricing engine developed in C++. The messaging middleware(RabbitMQ) is responsible for transmitting messages between them. My responsibilities include constructing and maintaining the high availability and load-balanced RabbitMQ cluster. I also develop products related to interest and exchange rate, as well as optimize numerical models.

### Relocation and Optimization of Derivatives Model Pricing Platform

*Team leader, Dec.2021 - May.2022*

- Build a distributed RabbitMQ cluster and utilize Haproxy for load balancing management
- Ensured high system availability by using Keepalived to monitor the hosts' heartbeat
- Introduced Supervisor to further improve the high availability and load balancing of the RabbitMQ cluster
- Relocated application components and the pricing engine to new data center

### Derivatives Pricing and Portfolio Management

*Team member, Mar.2020 - Oct.2021*

- Developed a spot-forward exchange rate calculator and parity forward calculator for Derivatives Model Pricing Platform based on the Vanilla Exchange Rate Option Pricing Model and Java's Factory Design Pattern
- Computed and produced reports on key interest rate risk analysis and profit and loss analysis
- Calculated interest rate quotes by using the Interest Rate Swap Model and utilized Java Spring multi-threading to publish the quotes on the customer platform

## Publications

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Lifu Li, Yuanting Qiu, Yaling Yin, Xiaoyun Li, Chunmei Wang, and Chaoxiu Guo\*, "Experimental Research on Two-dimensional Code Scanning and Recognition Based on Linear Array CCD," *Physical Experiment of College*, 01,29-32,2019.(Simplified Chinese)

## Skills and Languages

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**Skills:** I often program using C/C++, CUDA and Java. I also have experiences in programming using Shell Script, Python, MATLAB and SQL.

**Languages:** English(TOEFL 95, GRE 319+3.0), Mandarin and Cantonese