LI QUAN

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EDUCATION

Beihang University	*M.S. in Information Engineering*	***GPA: 3.73/4.00 (top 3%)***	Sep 2017 – Feb 2020
Beihang University	*B.E. in Information Engineering*	***GPA: 3.71/4.00 (top 3%)***	Sep 2013 – Jul 2017

PUBLICATIONS

1. Q. Huang, **L. Quan**, S. Zhang, " Downsampling and Transparent Coding for Blockchain", IEEE Transactions on Communications (TCOM) (under review).
2. **L. Quan** and Q. Huang, "Transparent coded blockchain," in ACM CoNEXT 2019 - ACM International Conference on Emerging Network Experiment and Technologies Student Workshop (CoNEXT Student). Orlando, FL, USA: ACM, December 2019 (accepted).
3. **L. Quan**, Q. Huang, S. Zhang, and Z. Wang, "Downsampling blockchain algorithm," in IEEE INFOCOM 2019 – IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), Paris, France, April 2019, pp. 342–347.
4. Q. Huang, Q. Xiao, **L. Quan**, Z. Wang, S. Wang, "Trimming Soft-Input Soft-Output Viterbi Algorithms", IEEE Transactions on Communications (TCOM), Vol. 64, Issue, July 2016, pp. 2952-2960.
5. R. Pei, Z. Wang, Q. Xiao, **L. Quan**, "Blind identification for Turbo codes in AMC systems", IEEE ICCSN 2016, Beijing, China, June 4-6, 2016.

PATENTS

1. Qin Huang, **Li Quan**, "Information transmission and reception method and device", China patent, 2019.
2. Qin Huang, Shuai Wang, **Li Quan**, "Target localization method, device and electronic device based on querying", China patent, 2019.
3. Qin Huang, **Li Quan**, Zulin Wang, "Blockchain storage method and blockchain node", China patent, 2018.

RESEARCH EXPERIENCES

Blockchain Storage Reduction via Downsampling Algorithm *Prof. Qin Huang*

Research Assistant, National Science Foundation, Beihang University, Beijing, China Sept 2017 – Present

- Researched on reducing the bloated storage of existing blockchain system using information and coding theory.
- Proposed a novel solution to use a downsampling algorithm to reduce storage required at each node.
- Accomplished orders of reduction in storage space while still satisfying confidence requirements.
- Published results with different topics to INFOCOM WKSHPS 2019, CoNEXT Student 2019, TCOM (under review), and applied national patents.

Algorithm Design and Enhance Polkadot Bridges Protocol *Prof. Roman Beck*

Research Assistant, IT University of Copenhagen, Copenhagen, Denmark Aug 2019 – Sept 2019

- Lead the algorithm design for enhancing Polkadot bridge protocol implementation, specifically for BTC and ETH.
- Designed a vault system on top of XClaim for BTC and ETH, and implemented the logic for deposit and transfer.
- Built an intelligent contract that conforms to the decentralized interoperable trust infrastructure.
- Overall design won approval from Pokadot experts and won third place in final presentation.

Decoding Algorithm of Turbo Code for High Throughput Communication *Prof. Qin Huang*

Research Assistant, Beihang University, Beijing, China Sept 2015 – June 2017

- Designed a new algorithm to reduce time complexity in Turbo code (forward error correction) encoding/decoding.
- Proposed a novel algorithm Trimming SOVA, after studying various existing algorithms. Achieved significant performance enhancement and won best presentation award in Annual China Information Conference.

INDUSTRY EXPERIENCES

Development of a Distributed Data Processing Pipeline

Software Development Intern, IT Orange LLC, Beijing July 2015 – Sept 2015

- Investigated in optimizing and improve existing data analytics system and started the design of a new parallel framework.
- Completed the V1 design and proof of concept development to demonstrate a 10x efficiency enhancement.

AWARDS

- ACM CoNEXT, *sponsored by ACM SIGCOMM* (Travel Grant) 2019
- National Software and Information Talent Competition C/C++ Programming Design (National Third Place) 2019
- Blockchain Development and Application Competitions (Second Place) 2019

SKILLS & LANGUAGES

Proficient: C++, Python, Solidity, MATLAB; **Intermediate:** Assembly Language and Verilog **Basic:** JavaScript, HTML
Standardized Tests: *TOEFL: 100 (R27 L27 S22 W24), GRE: 322 (V153 + Q169) + AW3.5*