Li Ka Lok, Jack

kaloklijk.github.io

Profile

Love programming, appreciation of creative ideas

Domain Knowledge: Algorithms' design & analysis, CI/CD architecture, web scrapping, data analysis, graph theory, networking, data structures, Machine Learning, Deep Neural Network model, web development, app development

Technical Skills: kdb+/q(functional/array programming), python(data analysis&visualization, web/app development, Machine Learning, etc), html/css, Kafka, C#, Linux/Unix, SQL, Microsoft Office(Word, Excel, PowerPoint)

Working Experience

Junior Software Engineer, FD Technologies plc. 07/2022 – Now

- Develop platforms for FX prices, provide UAT, smoke and regression test on Kx trading platforms for global top tier 1 banks
- Company provided training on q/kdb+, Linux, SQL, financial concepts for equities markets
- q/kdb+, python, Linux/Unix, SQL, Jira, testlink

STEM tutor, i-education 05/2017 - 07/2017

- Help organize and teach STEM courses in Primary School
  - Teach Primary School Students to build solar car
  - Teach Primary School Students about the concepts of solar cars
  - Help organizing other STEM events

Education

The Chinese University of Hong Kong
Bsc. In Mathematics & Information Engineering 09/2017 – 01/2022

- Relevant modules: data structures, Algebraic structures, Linear Algebra, Introduction to Software Engineering, Design & Analysis of Algorithms, Introduction to Cyber Security, Cryptography, Introduction to Internet of things, Introduction to C programming, Engineering Practicum, Information Infrastructure Design Lab, Engineering Project Design,

- Dissertation:
  - *Suboptimality and Achievability of 3-letters superposition coding region in 3-receivers Broadcast erasure channel in network information theory settings*
    - In depth study of (network) Information theory
    - Use Python Symbolic Information Theoretic Inequality Prover(by Prof. Li(2019) in CUHK) to compute the following
    - Prove the achievability of 3-letters superposition coding scheme(a codebook of algorithms) in 3-receivers Broadcast erasure channel using Shannon's information inequalities by computing its rates region and show that it is no-where negatives, assuming that the letters spaces are linearly independent R-vector spaces(infinite keywords)

- As one of the PhD in CUHK proves that superposition coding is not optimal in 3-receivers broadcast erasure channel, I compute the sub-optimality of superposition coding in higher letter case(3 letters)

Professional Accomplishment

Certified Associate in Python Programming

- Certified as an associate python programmer at Python Institute
- https://kaloklijk.github.io/assets/certificate_iTDE.eYnY.00Nt.pdf

Develop new algorithm for logical sentences

- created new algorithm in University for computing results for logical sentences

Participation in Hang Long Mathematics Awards

- discover new ways (similar to Morse theory) to compute homology of manifolds in High School
- write mathematical dissertation about the discovery

Additional Information

- Recreational secretary of the residential association of Bethlehem Hall in United College, CUHK
  - Help organize college level sports events including the Head's cup, Athletic Meet, swimming gala
  - Communicate with residents and persuade them to participate in different events
  - Help other members in residential association with their events
- Good knowledge in postgraduate/doctorial level maths and physics in specific fields(Symplectic geometry, algebraic geometry, almost complex geometry, Closed Gromov Witten theory, Lagrangian Floer theory, (topological) quantum field theories, higher topos theory, general relativity, string theory(basics)) – not research base
- Like singing
- Smart and creative
- Running a dashboard for FX prices on my computer
- More information on kaloklijk.github.io