Roger Zhang

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Education

UNIVERSITY OF PENNSYLVANIA – GPA 3.92

- Bachelor of Science in Engineering (B.S.E.) in Computer Science — Aug 2015 – May 2019
- Master of Science in Engineering (M.S.E.) in Computer Science — Aug 2015 – May 2019
- Dean's List 2016, 2017, 2018

AWARDS

Citadel/Correlation One Data Open Summer 2018 Invitational – 1st Place Team ($20,000 prize)

SKILLS

Experience with: Java, C++, C, kdb+/q, JavaScript, Python, Haskell, SQL, HTML, CSS, OCaml
Graduate coursework: Algorithms, Machine Learning, Database Systems, Functional Programming, Networked Systems

Experience

MORGAN STANLEY – *Technology Summer Analyst* — June 2018 – Aug 2018

- Used q/kdb+ to create and query databases that are used in various foreign exchange (FX) trading systems applications
- Cut down time to retrieve information for time-sensitive tasks from several minutes to a few seconds

BENTLEY SYSTEMS – *Strategic Technology Advancement Intern* — May 2017 – Aug 2017

- Created web applications and tools to simulate driving through 3D reality models of cities and roadways, with support for real-time location updates
- My team's project was the only intern project featured at a company-wide conference

UNIVERSITY OF PENNSYLVANIA

Teaching Assistant — Sept 2016 – Present

- CIS 502: Analysis of Algorithms (Fall '18)
- CIS 160: Mathematical Foundations of Computer Science (Fall '16, Spring '17, Fall '17, Spring '18)
  - Topics: graph theory, set theory, probability, proofs, combinatorics, etc.
  - Led a class section, created problem sets and solutions, graded homework and exams

Private Tutor — Mar 2016 – Dec 2016

- Courses: organic chemistry, multivariable calculus

UNIVERSITY OF ROCHESTER (Laboratory for Laser Energetics) – *Research Assistant* — Jul 2014 – May 2015

- Used hydrodynamics code to optimize laser beam configurations for the National Ignition Facility
- Received National Nuclear Security Administration Defense Programs Award of Excellence (2016)
- Co-author of an article published Cambridge University Press Journal of Plasma Physics

Projects/Activities

Event-driven exploration of airfare prices (Citadel DataOpen Summer 2018)

- (Team of 4) Worked with large datasets to write a report that analyzes the relationships between large events in cities and airline traffic and prices

MapReduce Implementation (C++)

- A C++ implementation of Google's MapReduce over a network of unix/linux computers.

Transient Detection (Python)

- Applications of various machine learning techniques to classify images of deep space objects (transients) for use in a research group in Penn Physics and Astronomy

Friends Network (Java)

- A program that retrieves information about your facebook friends graph, and contains implementations of various functions and algorithms to analyze the graph

Regular Expressions and Automata Library (Haskell)

- A library of data structures and algorithms related to DFAs, NFAs, and Regex's, implemented in Haskell