Shichu (Stuart) Zhu

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Objective: Software development engineer full-time position, Graduation Dec 2019.

Education

- **University of Illinois at Urbana-Champaign** — **Urbana, IL, US**
  Computer Science, Professional MS — *August 2018–Expected December 2019*
- **University of Illinois at Urbana-Champaign** — **Urbana, IL, US**
  Atmospheric Science, MS — *August 2014–August 2018*
- **Peking University** — **Beijing, China**
  Atmospheric and Oceanic Sciences, BS — *September 2010–July 2014*
  School of Physics, G.P.A. Major 3.70/4.0, Overall 3.52/4.0

Experience

- **University of Illinois** — **Urbana, IL, USA**
  Teaching Assistant, Dept of Computer Science, CS 411 Database Systems. — *August 2018–Present*
  Design homework questions (SQL query, ER diagrams), present tutorial lecture on web programming with DBMS.
- *Full-Stack Software Developer, DataSpread Group: dataspread.github.io, Prof. Aditya Parameswaran* — *Summer 2018*
  Mainly developed in java/javascript with the Spring framework; Designed and developed the navigation browsing component, integrating front-end design and back-end database algorithm support; Achievements included augmenting ZK–SpreadSheet's formula execution engine and using complex data structures such as B-Tree.
- *Research Assistant, Dept of Atmospheric Science, Prof. Greg McFarquhar* — *2014–2017*
  - NSF–funded research project to understand formation of ice clouds based on observed ice particle images.
  - Used MATLAB programs to process the particle images, extract dimensional information and estimate their size distributions.
  - Statistically analyzed and visualized the distributions and their derived properties to draw scientific conclusions. The analysis was largely done in Python (Scipy/Pandas/Matplotlib). Sample jupyter notebooks available at github.com/shichuzhu/atmos-research.
  - Results presented at American Geophysical Union Fall Meeting in Dec 2016.
- **California Institute of Technology** — **Pasadena, CA, USA**
  Visiting Undergraduate Researcher, Dept of Planetary Science — *Summer 2013*
  Numerical simulation of the weather layer of Jupiter's atmosphere using GFDL's shallow water model. Original model and tuning are coded in FORTRAN.
- **Peking University** — **Beijing, China**
  Undergraduate Researcher, Dept of Atmospheric and Oceanic Sciences — *2013–2014*
  A survey and comparison of existing numerical advection schemes in solving 1-D advection equation. Implemented in FORTRAN.

Projects

- *Course project, Distributed Systems, https://github.com/shichuzhu/sds* — *Fall 2017*
  An simple distributed system built from scratch using Golang. It includes a ping-ack SWIM failure detector, a reliable distributed file system with replica control, and a stream-processing engine with a naive scheduler.
- *Course project, Data Structures Honor Section, github.com/shichuzhu/text_adventure_game* — *Fall 2017*
  A simple terminal text adventure game built under functional programming paradigm in Clojure.

Courses

- **Theory:** Algorithms and Data Structures, Applied Numerical Methods [*A+*], Introduction to Computation [*A+*], Introduction to Data Mining, Artificial Intelligence, Linear Algebra, Probability and Statistics.
- **System:** Applied Cloud Computing (Python), Communication Networks (C++), Database Systems, Distributed Systems (Python, Go)[*A+*], Programming Languages (Haskell), System Programming (C).

Programming Skills

- **Proficient in:** C++, Java, Python.
- **Familiar with:** C, Clojure, FORTRAN, Go, Haskell, MATLAB, SQL, LaTeX, javascript.
- **Frameworks & Tools:** React, gRPC, Django, Jupyter notebook, Node.js, Spring.
- **Programming Contests:** Illinois Programming League (IPL) Rank 5 (Season 3), Rank 9 (Season 2).