Shuo Yang

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Summary

8 years of programming experience with C/C++, Python and Java, specializing in system programming and backend/infrastructure. Proficient in Relational Database Management Systems, especially MySQL. Experienced with Big Data technology such as Hadoop and Hive. Good exposure to NoSQL databases such as MongoDB and HBase. Understanding of fundamentals in data science.

Skills

Languages	C/C++, Python, Java, SQL, Shell, HTML, R
Database Systems	MySQL, SQLite, Oracle, MongoDB, HBase
Operating Systems	Linux/Unix, Mac OSX
Frameworks	Hadoop, Hive, Giraph, Pthreads, MPI, Django, Numpy, Pandas
Tools	LaTeX, Emacs, Eclipse, Git, Vagrant, Puppet, Chef, Jupyter

Education

University of Arizona — *Tucson, Arizona USA*

M.S. in Computer Science, GPA: 3.18 — *Aug. 2014 - May. 2017*

University of St. Thomas — *St. Paul, Minnesota USA*

M.S. in Software Engineering, GPA: 3.8 — *Aug. 2011 - May. 2014*

Harbin Institute of Technology — *Harbin, Heilongjiang China*

B.E. in Electrical Engineering — *Aug. 2004 - May. 2008*

Experience

University of Arizona — *Tucson, Arizona USA*

Research Assistant with Dr. Richard Snodgrass on ANTARES project — *Aug. 2014 - Aug. 2015, Aug. 2016 - Mar. 2017*

- Designed and implemented the Python API for astronomical alert data manipulation, using MySQL as DB backend.
- Worked on various components of ANTARES system, including data injection, alert simulator and alert packet format specification.
- Managed the dedicated CentOS cluster; designed and built the autoconfiguration and bootstrap system using Puppet and Vagrant.
- Analyzed and improved the performance of ANTARES data processing pipeline; researched data provenance.
- Designed the data provenance framework for ANTARES to answer provenance questions that astronomers would ask.

University of Arizona — *Tucson, Arizona USA*

Independent Study with Dr. Beichuan Zhang on Named Data Networking (NDN) project — *Spring 2016 & Fall 2016*

- Researched consumer-driven congestion control mechanisms in NDN.
- Implemented TCP-like congestion control algorithms in NDN consumer (in C++), specifically, TCP RENO, CUBIC and VEGAS.

University of Arizona — *Tucson, Arizona USA*

Teaching Assistant with Dr. Lester McCann on CS460: Database Systems — *Fall 2015 & Spring 2016*

- Held office hours; graded programming and written assignments; prepared solutions for written assignments.
- Designed the final project “Database-driven Web Application” using Oracle, Tomcat and JSP; evaluated students’ design and implementation.

University of St. Thomas — *St. Paul, Minnesota USA*

Student Researcher with Dr. Brad Rubin and Dr. Jadin Jackson on project: Neural Modeling in Hadoop — *Aug. 2013 - May. 2014*

- Researched graph processing in Hadoop; proposed an improved graph algorithm design pattern in MapReduce.
- Implemented a large scale basal ganglia neural network model in MapReduce.
- Re-implemented in vertex-centric model with Apache Giraph; improved performance by 60% compared to the MapReduce implementation.

Danfoss Power Solutions — *Plymouth, Minnesota USA*

Software Engineer Intern — *June. 2012 - May. 2013*

- Migrated the legacy software to the new hardware platform with other team members and conducted unit testing.
- Built a backend tool (in Python) for indexing and querying large volume of messages produced by static code analyzer FlexeLint.

Platomix Technologies. (Start-up company) — *Beijing, China*

Software Engineer — *Feb. 2009 - July. 2009*

- Responsible for the development on RTL device, which was part of the initial prototype for Samsung’s Remote Test Lab (RTL).
- Implemented the communication protocol (in C++) between RTL device (LiMo platform) and RTL proxy.
- Developed a daemon process (in C++) for RTL device to handles requests from proxy, in order for RTL client to remotely control the device.