Tao Sun

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Personal statement

I came to Ohio University this spring as a candidate of Master of Mathematics (Computer Science track). Before that I spent a semester in Valparaiso University learning three data analytics courses. I was a technical lead and programmer in China R&D of SAS Institute, the world leading Statistics software vendor, from 2011 to 2015. As a senior software developer, I have 10 years' success designing and implementing innovative and tailored enterprise software and solutions.

Work history

Technical Lead, Data Visualization Group of SAS Institute, Beijing
April 2015 – July 2015

My role involves leading a team developing and maintaining SAS BI Dashboard.

UI Common Component Developer, HTML5 Group of SAS Institute, Beijing
September 2013 – March 2015

As a core team member, I am focusing on the development of Form Control Component.

Form Control, a major HTML5 component in SAS, is designed to collect user-input values. Based on a data model, it generates various UI controls and organizes them into hierarchical forms.

Strengths and achievements:

- Overall object-oriented design of Form Control to meet the requirements, in the meantime considering the extension to Property Sheet, another major SAS HTML5 component.
- Designed and implemented fundamental features of Form Control, including but not limited to responsive web solution, data model and binding and transparent group.
- Fixed most of obstructive bugs.
- Developed other miscellaneous HTML5 components.

The essential supports I provided were crucial to its successful releases. And I was also promoted to a lead position due to my significant contributions to it.

Software Engineer, Business Intelligence Group of SAS Institute, Beijing
September 2013 – March 2015

Business Intelligence (BI) Group was responsible for the plugin development of SAS Environment Manager (EV) and SAS Visual Data Builder (VDB).

Strengths and achievements:

- Solved a long blocking bug of Data Spreadsheet, with that safe guarded *File Importer* project for the team and then winning the 3C (Collaboration, Communication and Consistency) Award of SAS 2012.
- Set up the prototype of *File Importer* and led the development of it technically.
- To fix some long-standing bugs, rewrote library plugin of EV.

Team Lead, 9Spaces, Beijing
May 2008 – August 2011

I was focusing on an outsourcing project, whose owner was one of 9Spaces' strategic partners.

My responsibilities included designing and implementing applications, collaborating with remote team members to ensure on-time release of high-quality code and project deliverables.

In 2010, I was chosen as the top technical staff to come to Seattle to join the core team on the client side working together for two months. Everyone in the team was a top-notch developer and some of them even developed an embedded OS for Intel in the past.

Strengths and achievements:

- Designed and developed a Chrome extension as the running environment for a web-scraping tool.
- Designed and developed an automatic test tool with Ruby for a web-scraping tool.
- Designed and developed a command test tool for developers to test a web activity-tracking tool.

Software Engineer, 9Spaces, Guangzhou
September 2005 – April 2008

I participated each phase of design and development of 9Spaces.com. In the second half of 2007, I started to lead a team working on payscale.cn, Chinese version of famous salary survey website payscale.com.

Strengths and achievements:

- After research, proposed a solution for the internal search engine based on Apache

Lucene and developed a prototype for it.
- Implemented the referral system and mail engine of 9Spaces.com.
- Participated the initial design and worked as a lead to implement Chinese version of Payscale.com based on Google Web Toolkit (GWT) and the open source web crawler Heritrix.

Skills and abilities

[Development Environment]
- Unix, Linux
- Windows

[Programming]
- Java (Java EE, Spring, Lucene, GWT, Heritrix, IBatis etc)
- Javascript (JQuery, Dojo, OpenUI5)
- Actionscript (Flex)
- Ruby
- Python

[Data Science]
- SAS
- Machine Learning
- Natural Language Processing

[Software Engineering]
- Object-oriented Analysis and Design (OOAD)
- Project management and agile development
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Education

Master of Mathematics, Jan 2016 – Apr 2016
Ohio University, Athens, Ohio

Course list (GPA 3.89):
Computational Theory
Operating System
Natural Language Processing

Master of Analytics and Modeling, Aug 2015 – Dec 2015
Valparaiso University, Valparaiso, Indiana

Course list (GPA 4.0):
Simulation and Modeling

Seminar in Applied Statistics
Language Processing Technologies

Master of Science in Engineering, Physical Electronics
Huazhong University of Science and Technology, September 2002 – June 2005

For me, the research experience *Huazhong University of Science and Technology,* a top-10 university in China*,* grants me a wonderful and unique memory. The National Key Lab provided plenty opportunities with research projects and the funding coming along with them. Project team members were also smart and creative, and you could always expect the invaluable guidance from senior ones. *Nano* was then a brand new thing and *Photonic Crystal* was a promising field. It is in this creative house that I achieved a breakthrough in photonic crystal. By creatively combining Nano and Photonic Crystal, I came up a new idea to use a kind of *Nano* film as a new type of *photonic crystal*. After I verified this idea by simulating with an algorithm named FDTD, I published a paper in a world-renowned magazine *Applied Physics B*. The significant amount of time spending in implementing FDTD algorithm led me to start to like computer coding, which I believe laid down the early foundation for me to become a developer later on.

Bachelor of Engineering, Optoelectronics
China Jiliang University, September 1998 – June 2002

At the end of my first semester, among more than 600 students, I stood out with my outstanding performance in the final exams and that led me to become a transferred student in a talented class. This talented class was composed of the top performed students from every department. It followed a restrictive elimination mechanism, i.e., the bottom three students in GPA in the final exam would be dropped out of the class to make room for top performers from the regular classes so competitiveness could always be maintained not only within the class itself, but also from the outside. The curriculum preference was inclined to Computer Science, but was also balanced somewhat with other courses in engineering. But regardless, they were all very demanding and challenging.

I always believe that methodology is extremely important in academic learning. I perhaps was not the most hard-working student in preparing the National Graduate Qualification Test. However, I ended up with the highest score among the fellow classmates in the two classes I ever stayed. This fully proved that my continuous efforts to find right methods in learning was rewarding.

Literature

Sun, T., Zhu, D., Yang, Z., Liu, Z., & Liu, Y. (2006). Theoretical predictions of photonic properties of nanoporous copolymer films as photonic band gap materials using FDTD. *Applied Physics B*, *82*(1), 89-92.

Sun, T., Zhu, D., Yang, Z., Liu, Y., & Wu, F. (2005, January). Analysis of optical waveguiding properties of self-assembled block copolymer films using FDTD method. In *Asia-Pacific Optical Communications* (pp. 208-214). International Society for Optics and Photonics.

Certifications

Machine Learning
Coursera.org
March 2014 – May 2014

Awards

SAS 2012 3C (Collaboration, Communication and Consistency) Award
December 2012