# Zaixian Xie

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## OBJECTIVE

Full-time job with a focus on software development.

## EDUCATION

**Ph.D., Computer Science** **GPA 3.8/4.0** **Sep. 2010**

Worcester Polytechnic Institute, Worcester, MA

**M.S., Computer Application Technology** **GPA 3.5/4.0** **Mar. 2000**

**B.S., Computer & Computing Science** **GPA 90/100** **Jul. 1997**

University of Science & Technology Beijing, Beijing, China.

## SPECIALTIES

- Proficient in C, C++ (GCC & VC++, 10+ years), object-oriented design, and multithreading programming
- Graphics software and driver testing application development (OpenGL & DirectX); GPU parallel computing
- Architecting, developing and releasing open source cross-platform software packages (Windows/Unix/Mac OS)
- The requirement analysis, design and development of information management systems using relational database

## INTERSHIP EXPERIENCE

**AMD DirectX Driver Group** **May - Sep. 2008 & June - Aug. 2009**

- Constructed DirectX driver functional testing framework, developed testing applications, and designed test plans.
- Focused on GPU parallel computing, and multithreading rendering.

## RESEARCH & DEVELOPMENT EXPERIENCE

**Worcester Polytechnic Institute** **Jan. 2005-Present**

- **Developed and released XmdvTool, a cross-platform software for visual analytics of relational data.**
  - Re-architected this open-source software package using object oriented design and visualization pipeline with a focus on improving the reusability and extensibility of the source code. Wrote 30,000 lines of code using **C++**, **OpenGL, Qt**, 75% of the whole system. Managed the release on sourceforge.
- **Exploratory visualization for data streams**
  - Designed and implemented a real time system to visually convey pattern changes on data streams using **C++, Qt** and **OpenGL**. Connected to a live stream via FTP protocol. Involved multithreading and socket programming.
  - Developed lossy data compression algorithms to store streaming data which keep data pattern changes.
- **Visualization of data quality for relational data**
  - Developed a system to compute and visualize data quality for relational data using **C++**, **OpenGL**, and **Tcl/Tk**.

**Course Projects**

- Employed hash table to reduce by 98% the time cost of solving a sliding puzzle with the A* search algorithm.

## WORK EXPERIENCE

**Software Engineer** **Sinotrust Intl. Info. & Consulting (Beijing) Co., Ltd.** **Nov. 1999- Jul. 2000**

- Project lead of a credit management system to enable companies to share credit information of small business.
- Involved in the whole life cycle of software development, .from requirement analysis to testing.

**Instructor & Researcher** **University of Sci. & Tech. Beijing** **Mar. 2000 - Sep. 2004**

- Taught C Programming Language, Software Engineering, Database Management Systems, and Computer Graphics.
- Designed and implemented a web-based industrial network management software system using **Java Applet**. It has been installed in many plants in China as a part of their automation control solutions.
- Developed a real time system to monitor boiler flame images and communicate with an alert system using **VC++.** It is laborsaving and has been installed in a chemical plant in Beijing as a key part of the security system.
- Developed a 3D tree rendering system which simulates genetic variability during reproduction (**VC++** & **OpenGL)**.

***Publication list is available upon request***