

Career Objective

Seeking full-time software development opportunities. I specialise and have a keen interest in computer vision, real-time image processing and motion detection.

Education

Bachelor of Commerce

University of Western Australia
Majors: Corporate Finance, Investment Finance
Minor: Financial Accounting

Bachelor of Engineering (Honours)

University of Western Australia
Major: Information Technology
Both Completed: March 2005

Experience

Software Engineer – Gaming Research and Development

March 2009 to Present

Atomic Gaming Innovations Pte Ltd (Singapore)

- Led the first multi-touch project, including directing the hardware and electrical engineering team.
- Ensured gaming standards compliance with Casino Regulatory Authority of Singapore (CRA) and Gaming Laboratories International (GLI).
- Analysed and designed core game engine components that are reused in several gaming applications.
- Developed a GPU-driven image processing library that is easily portable and customisable.
- Designed a multiplayer network library with peer-to-peer networking capabilities.
- Implemented a Mersenne Twister random number generator coupled with a method to generate truly unpredictable seeds (randomness verified and approved by BMM Compliance).
- Represented the company as a technologist to meet with potential investors at the Global Gaming Expo (G2E) 2009 in Las Vegas, Nevada.
- Use **C**, **C++**, **CUDA**, **Visual Studio 2008**, **Eclipse**, **Bugzilla** and **Subversion** extensively during the development process.

Software Engineer – 3D Mining Software

July 2007 to February 2009

Maptek Pty Ltd (Australia)

- Worked with the Development Team to maintain, extend and research the Vulcan 3D package.
- Coordinated with the Local Software Coordinator on projects, timeframes and development issues.
- Assisted the Technical Services division on Vulcan related problems.
- Analysed and designed interfaces/classes which extend the Vulcan product.
- Provided the Technical Writers with relevant information and test datasets for completed projects.
- Coordinated with the QA Manager on “bug fixing” issues to maintain and produce quality software.
- Used **C**, **C++**, **vi Editor**, **Cygwin** and **Visual Studio 2005** extensively during the development process.

National Service

April 2005 to February 2007

Singapore Armed Forces

- Acquired officer-level leadership training at the prestigious SAFTI Military Institute.
- Managed a team of 20 commanders, 3 storemen and 1 clerk, to train 200 recruits.
- Ensured that necessary equipment, staff and safety measures are allocated for every lesson.
- Directly responsible for the physical fitness of the recruits.
 - 02/06 Intake’s Initial Fitness Test Results: 32% passes and 14% award winners.
 - 02/06 Intake’s Final Fitness Test Results: 89.5% passes and 58.7% award winners.
 - 03/06 Intake’s Initial Fitness Test Results: 1% passes and 0.5% award winners.
 - 03/06 Intake’s Final Fitness Test Results: 75.8% passes and 36.3% award winners.
- Received a testimonial with an evaluation rating of “outstanding” for my services as an officer.
- Completed military service as a Lieutenant with the appointment of Company Second-In-Command.

Software Developer – Internship

December 2003 - February 2004

Adaptec Manufacturing Singapore

- Designed and created an application to compare customer orders with the factory’s current inventory status to determine order fulfilment ability or inventory shortages.
- Worked closely with management to define user-requirements and functional specifications.
- Used **Visual Basic** and **Microsoft Access** to create this application.

Significant Projects

Visual Servo System

([view video!](#))

University of Western Australia – Honours Project

- Conducted research into the areas of Image Analysis and Path Planning.
- Created a vision-based autonomous system to navigate a miniature vehicle from its start point to a goal point, whilst avoiding any obstacles.
- Designed and executed detailed test cases to ensure correctness, stability and efficiency of each functional unit and the system as a whole.
- Wrote a thesis which documented the research and results of the methods used.
- Represented the Centre for Intelligent Information Processing Systems during the University of Western Australia Expo by providing public demonstrations and hands-on experience with the system.
- Used **C** to implement a wireless interface on the miniature vehicle, **Visual C++** with **Microsoft Foundation Classes** to create the graphical user interface in **Visual Studio 2003**, and **C#** to simulate an autonomous multi-vehicular environment.

Miniature Lift System

University of Western Australia – Real-Time Distributed Computer Systems 423

- Worked with three other team members to design and implement a miniature four-lift system.
- In charge of implementing the lift system based on user-requirements and functional specifications as discussed by all team members.
- Used **J2EE** to create the lift system.

Webcam Motion Detector

Personal Project

- Developed a Windows application based on the idea of using a webcam to detect and track multiple moving entities.
- Created online webcam-interactive applications and games to further explore people-computer interactivity via vision.
- Used **Visual C++** with **Visual Studio 2005** to create the Windows application, and **Adobe Flash CS3** with **ActionScript 3.0** to create the webcam-interactive applications.

Facebook Games

Personal Project

- Developed four Facebook games ([Soccer Juggle](#), [Ping Pong Champion](#), [Area 51](#) and [AsciiMe!](#)) that interpret a live video feed, from the user's webcam, to manipulate virtual objects in real time.
- Image processes included motion detection, motion tracking and edge detection algorithms.
- To date, the games have attracted over 500,000 users cumulatively.
- Used **PHP**, **MySQL**, **Adobe Flash** and **ActionScript 3.0** to create the games.

Wan's Vision Website

([view video!](#))

Personal Project

- Designed and built a website to display webcam-interactive applications to demonstrate Flash application possibilities in the area of computer vision.
- Used **HTML/XHTML**, **CSS**, **JavaScript**, **Adobe Flash** and **ActionScript 3.0** to create the website.

Skills

Programming Languages

- Highly proficient with C, C++, ActionScript 3.0, HTML/XHTML, CSS, PHP and MySQL.
- Good experience with C#, CUDA, Fortran, Visual Basic, J2EE, J2ME and JavaScript.

Program Applications

- Highly proficient with Visual Studio, Eclipse, Bugzilla, Subversion, Adobe Flash and Adobe Photoshop.
- Good experience with vi Editor and Code::Blocks.