Frank Zhao

11C North RoadNorth East Valley
Dunedin, New Zealand 9016
✆ (+64) 21-085-13604
✉ hyperion_z@outlook.com

Seeking a job opportunity for software development.

About me

As a computer science graduate, I have a solid understanding of algorithm, data structure, and system architecture. This lets me write efficient code to solve unseen problems in real business. Through finishing different projects, that not only strengthened my teamwork skill, but also extended my knowledge horizon to keep me in touch with the latest research in different disciplines, such as computer vision and information retrieval. Most of all, the postgraduate project teaches me how attitude and focus could be much more important than your intellectual ability. And that is a precious lesson for my future career and life.

Education

In New Zealand

Currently	**Otago University**, *Master of Applied Science*, Specialization in Computer Science.
2017	**Otago University**, *Postgraduate Diploma in Science*, Specialization in Computer Science.
2016	**Otago University**, *Diploma for Graduates*, Specialization in Computer Science.

Knowledge

Core skills	Solid implementation of data structure and algorithm.
	Deep understanding about operating system (Linux).
Strong	Object-oriented programming with Java, C++ and Objective-C.
	Principles of designing a database, use of a database management system and implementation of the underlying database management system.
Experienced	iOS and OS X programming, Linux driver development.
	Network programming techniques, such as socket programming over TCP and UDP.
Familiar	Python, Swift, PHP, Javascript, HTML, SQL, Bash.
Hobby	Objective-C for iOS and OS X development.

Experience

In New Zealand

2018 first semester	**Independent Study Project**.
	Implemented a K Nearest Neighbor search algorithm described in other people's paper, and try to use memory locality to improve the performance under non-uniform memory access(NUMA).
2018 first semester	**Neural Network Implementation**.
	Implement a simple fully connected neural network with one hidden layer using general delta rule for back-propagation. Adjust the number of hidden units and other constant to collect test accuracy on iris dataset.
2017 full year	**Computational videography**.
	My program uses OpenCV to create a virtual 3D environment from a monocular video stream and the 3D environment is represented as a texture mapped piecewise planar graphical model.
2017 second semester	**Machine learning assignment**, *Anomaly detection*.
	Developing an incremental Power method for online analysis of data streams by using modified power PCA method.

2017 second semester	**Advanced operating system assignment**, *Writing Linux driver in Raspberry Pi.* Implemented a virtual ram disk as a character device, such as $ls > dev/asgn1 and $cat dev/asgn1. Based on that, design and code a driver for a dummy GPIO port device.
2017 first semester	**Computer vision and graphics**, *Fitting planes to points.* Point cloud models are a common output from depth sensors such as LiDAR or Microsoft's Kinect, stereo vision algorithms, etc. These models consist of isolated 3D points. Used RANSAC to find planes in point cloud data.
2017 first semester	**Information Retrieval assignment**, *Write a Search Engine based on XML files.* My program parses the Wall Street Journal collection of documents (more than 500M) marked up in XML, then builds an inverted-file index from it and saves the index to disk. At last, I could load the index and do key words search within 1 second.
December 2016 – January 2017	**Summer Scholarship Project**, *High performance web-based heat-map visualization.* This project uses time-series data (power usage recorded with per minute precision) stored by InfluxDB, combined with JavaScript visualization library D3 to show the heat-map. Its high performance mainly comes from the InfluxDB which allows user to support high efficiency querying over time series data.
2016 second semester	**Database Theory and Applications**, *Database design and implementation.* Design and implement a book shop retail database using SQL and PHP.
2016 second semester	**Object-Oriented Programming**, *Lecture notes organizer.* Design and implemented a PDF viewer, using Cocoa, for viewing a set of PDF lecture notes.
2016 first semester	**Artificial Intelligence**, *Evolve a species.* Implemented a genetic algorithm to optimize the fitness of a species of creatures in a simulated two-dimensional world using Java.

In China

2012–2015	**ATOS(China)**, *Main Role: System Engineer.* Responsibility: . In VGIC (Volkswagen Group (Import) Co. Ltd.) project: Follow up project operation and optimize maintenance process. Make specifications about monthly report and project operation. Communicate with VGIC and dealer site for server maintenance, report and analyzing monitor incidents monthly for service quality SLA. . Installing hardware and software, maintaining Linux Servers. . Troubleshooting and resolution of application and system related problems. . Performing system software upgrades including planning/ scheduling security patch, and maintaining integrity of the operating system environment. . Performing backup administration, including backup and restore of data. . Responding to outages both during normal business hours and in an after-hours, on call capacity.
2010-2011	**JobKoo.com**, *Main Role: IT Service Engineer.* Responsibility: . Receiving service request from users and providing appropriate technical support and troubleshooting for IT related issues, including Office/Outlook, IE/Web Application, VPN/Remote Access, and Anti-virus updates. . Create AD account and make AD policy to support company regulations.

Languages

Mandarin	Native Speaker
English	Fluent