

# Fei Zhan

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## Technical Skills

### Programming Languages

- C++
- C
- MATLAB
- Javascript
- PHP
- L<sup>A</sup>T<sub>E</sub>X

### Operating Systems

- Ubuntu
- Windows

## Education

2012–Present **Master of Science, Computing Science**, *Simon Fraser University*, Canada.

2007–2012 **Bachelor of Engineering**, *Zhejiang University*, China.

## Industrial Experience

2011–2011 **Test Engineer**, *Alibaba.com*.

- Participated in the development and test of the search engine, and conducted unit test, code review, and document maintenance.
- Used C++, Linux, Shell, Python, and code test tools.

## Programming Projects

2012–Present **Web-based Visual-programming-based Configurable Dashboard Platform for ROS**, *Autonomy Lab, Simon Fraser University*.

- A platform for Roboticists to test and demonstrate with various widgets in browsers, including 2D/3D map, data plotting, face recognition, and graphics.
- Written in HTML5, Javascript, and PHP.
- Dashboards can be created by dragging and dropping, which is easy to use, simple to extend, and welcomed by Roboticists.

2010–2011 **RoboCup Small-size League**, *Zhejiang University*.

- Developed path planning algorithm, designed the soccer defence strategy, and reconstructed original code into scripted code.
- Won the Final Eight in RoboCup World Competition, and the Second Prize in RoboCup China Competition.
- Written in C++, used VisualStudio to develop, and TortoiseSVN for version control.
- Improved the team's defensive ability and reduced the component's goal rate.
- Simplified the process of changing parameters on-site by reconstructing into scripts.

## Programming Projects (Continued)

- 2009–2010 **Standard Platform Match, Supcon Cup Robotics Competition, Zhejiang University.**
- Designed robot control algorithm in order to navigate, shoot goals, and perform creative shows.
  - Led a team of three to win the Championship of Standard Platform Match, Supcon Cup Robotics Competition.

## Research Projects

- 2013–Present **Real-time Energy-efficient Componential Scheduling System using Machine Learning, Autonomy Lab, Simon Fraser University.**
- Researched how robot's periodic movements are learned by adaptive frequency phase oscillator and Incremental Locally Weighted Regression (ILWR).
  - Reduced robot's energy consumption by Reinforcement Learning.
  - Conducted simulated experiments in C++.
- 2011–2012 **Intelligent Security Patrol System based on NI DaNI Mobile Robot Platform, Zhejiang University.**
- Worked on National Instruments Robotics Starter Kit and LabVIEW.
  - Designed a patrol system based on network camera and VFH path planning algorithm.
  - Won the Second Prize in NI National Academic Paper Contest and Excellent Graduation Thesis.
- 2012–2012 **Topic Model-based Robot Foraging in an Unexplored Environment using Machine Learning, Autonomy Lab, Simon Fraser University.**
- Researched how robots learn the distributions of resources in an unexplored environment by Topic Model and expectation–maximization algorithm.
  - Increased the accuracy of the robot exploration and reduced the time and energy consumed.

## Honors and Awards

- Jun 2012 Second Prize in NI Academic Paper Contest
- Jun 2012 Excellent Graduation Thesis
- Jul 2011 Final Eight in RoboCup World Competition
- Aug 2011 First Prize of Research and Creation Scholarship
- Jul 2010 Second Prize in RoboCup China Competition
- May 2010 Championship of Standard Platform Match, Supcon Cup Robotics Competition
- Sep 2008 Excellent Academic Scholarship