

# Ngo Duc TRUNG

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*Passionate about clean code, programming languages and new technologies.*

## EMPLOYMENT HISTORY

**Software Engineering Internship**, iWay Vietnam, October 2014 - January 2014

- Maintained PHP-based projects
- Helped implement a Single Sign On solution

## EDUCATION

**Hanoi Amsterdam Highschool for the Gifted**, Fall 2008 - Spring 2011

Majored in Physics

**Foreign Trade University (Vietnam)**, Fall 2011 - current

Majored in Business Japanese

**FPT Aptech Hanoi**, Fall 2012 - current

- Majored in Applied Software Engineering, Java and C# desktop and web application development.
- Full scholarship
- Chosen as the student of the month in March 2013.

## SKILLS

### Programming languages

- Python: expert
- C: proficient
- Ruby: proficient
- Perl: proficient
- Java: proficient
- C++: prior experience
- Lisp (Scheme, Racket, Clojure): prior experience
- x86 assembly: prior experience

**Proficient with Linux and Unix software development (5+ years)**

## LANGUAGE PROFICIENCY

### Vietnamese

Native

### English

Full working proficiency (scored 8.0 on the IELTS test)

## PERSONAL PROJECTS AND OPEN-SOURCE CONTRIBUTIONS

### Bogo project, Summer 2012 - current

Bogo is a Vietnamese input method (a system that, with a rule of  $a + s \rightarrow \acute{a}$ , turns *caos* or *caso* into *cáo*).

It has:

- ▶ Core library in Python, with several implementations in other languages to assess portability.
- ▶ Bridges that interface with Linux (complete), Mac OS X, Windows (had to overcome several problems bridging Python with the Windows API owing to the closed nature of Windows).
- ▶ Some other extreme implementations using Finite State Transducers and regular expression to explore support for arbitrary languages (e.g. Hindi).

On the project, I:

- ▶ Applied **TDD** (sometimes coupled with pair programming) and **continuous integration** with Travis-CI.
- ▶ Tremendously improved the accuracy of the library by writing a script that exhausts all possible key press combinations that can generate a single Vietnamese word to use as test input.
- ▶ Prevented several crashing bugs by regular application of the Clang static code analyzer.
- ▶ Improved execution time of a custom C UTF-8 library from  $O(n)$  to  $O(\log n)$ .
- ▶ Built and maintained a Debian package repository and some Arch Linux AUR package build specifications for easy distribution of bogo. Prior experience with RPM.
- ▶ As supporting work, implemented and submitted upstream the surrounding text support for:
  - \* ibus-qt4 ([link](#))
  - \* Qt 5 ([link](#))
  - \* GNOME Terminal (and related terminal emulators) ([link](#))
  - \* Ubuntu Unity ([link](#))

### Hobby kernel

Wrote a simple hobby kernel in C and x86 assembly while in high school. Faced several challenges including memory management, proper CPU mode and context switching, hardware interface. Led to valuable understanding of an OS.

### Other

- ▶ Extensive localization works for several subprojects inside the Ubuntu project, as well as for several Mozilla projects.
- ▶ Run local weekly TDD workshops in Hanoi.
- ▶ Help run CodeClub Vietnam, a local organization that aims to develop programming literacy in primary school children using MIT Scratch, a graphical programming language. Maintain infrastructure, deliver classes and educate volunteers.