

Matthew Do

Code github.com/minhnhdo

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Work Experience

Viki Inc. (viki.com) – DevOps Engineer **May 2016 – June 2017**

- Developed a development environment (codenamed nDev) capable of running the whole Viki infrastructure on one machine, based on Docker in Docker and PPTP for VPN
- Maintained uptime of all Viki infrastructure

Leadbook Pte Ltd (leadbook.com) – Software Engineer **Jun 2015 – Apr 2016**

- Simplified codebase by removing overdesigned and redundant subsystems
- Implemented optimizations
 - Reduced page load time for list view of data by 4 times by not rendering redundant data
 - Reduced request serving time for bulk operations by 100 times by using bulk update and partial record/document update APIs

Viki Inc. (viki.com) – Platform Engineer **Jun 2014 – May 2015**

- Containerized services for speedy recovery measures, easy deployment and better security (brought down deployment time from 20 minutes to 5 minutes)
- Worked with Amazon S3, Redis, RabbitMQ, PostgreSQL, Ruby and CoffeeScript to deliver high performance backend API for hosting celebrities information on Viki in order to increase viewer engagement (see viki.com/celebrities for an example)
- Maintained and improved uptime of api.viki.io, the backend API for Viki products (website, iOS, Android, Samsung TV clients, etc.) and third party clients (wuaki.tv, tempo.co, myasianTV.com, etc.)
- Developed integration testing tool for multi-service black box testing

Leadbook Pte Ltd (leadbook.com) – Software Engineer Intern **Jun 2013 – Aug 2013**

- Installed and maintained the company's servers on EC2 instances
- Developed a data importer from CSV to MongoDB, achieving speed twice as fast as Pentaho's

Ubisoft Singapore Pte Ltd (Assassin's Creed IV: Black Flag) **Jul 2012 – Dec 2012**

Intern Programmer

- Implemented internal tools to be used by level designers
- Prototyped automatic camera system for the official game

Projects

doco – documentation generation using static and dynamic analysis **Mar 2018**

- doco generates, as code comments, pre- and post-conditions for Java methods using static analysis, dynamic analysis, and Rust

PGo – distributed system compiler for PlusCal model checking language **Oct 2017 – May 2019**

- PlusCal is an model checking language based on TLA+ (lampport.azurewebsites.net/tla/pluscal.html)
- PlusCal specifications can be checked with TLC, part of the TLA+ toolbox
- PGo translates PlusCal specifications to distributed Go programs

Undergraduate Final Year Project **Jan 2014 – May 2014**

- Extended Micrium μ C/OS-III, a real-time operating system for embedded devices
- Implemented Earliest Deadline First scheduler
- Added recurrent tasks
- Implemented a deadlock avoiding synchronization primitive

status – extensible static site generator in Clojure **Dec 2013**

- Pipelined architecture with focus on extensibility

Mozilla's Rust compiler – open source contributor **Jul 2013 – Sep 2013**

- Removed unnecessary misfeatures from the standard library

- Added signal handling support to the standard library

Pyscheme – Scheme interpreter in Python

Dec 2011

- Developed this in three days after reading The Little Schemer
- Demonstrated comprehension of concepts in functional programming

Education

University of British Columbia

Sep 2017 – May 2019

Master of Science (Computer Science)

- Teaching assistant
 - Functional and Logic Programming: helped students learn to program in Prolog and Haskell
 - Distributed Systems: helped students build distributed systems (most notably a blockchain implementation, as well as Raft and Paxos implementations), and built automated grader for assignments
- Research assistant
 - PGo: a distributed system compiler from PlusCal to Go

Nanyang Technological University

Aug 2010 – May 2014

Bachelor of Engineering (Computer Science)

- Cumulative GPA **4.17 / 5.0**
- Teaching assistant (developed lab manual materials)

Initiatives

Grokking Engineering (grokkingengineering.org) – Organizing Team

Oct 2014 – Sep 2017

Building a community of good software engineers in Vietnam

- Organized talks and coding challenges to help raise the bar for software engineers in Vietnam
- Experimented with new ways to deliver vision

NTU Open Source Society – Vice President

Aug 2012 – Apr 2014

- Organized workshops to spread technical knowledge to NTU student body
- Promoted software development in NTU

NTU Open Source Society – Technical Director

Sep 2011 – Aug 2012

- Organized Software Freedom Day celebration in NTU
- Gave presentation on Ubuntu basics in Ubuntu Install-fest

Skills

Programming Languages

Rust, Go, Ruby, CoffeeScript, JavaScript, Clojure, Python, C, C++, Java

Tools

vim, git, Redis, RabbitMQ, docker, fabric, linux