

# TIAN XIN

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## Education

- **Carnegie Mellon University, Pittsburgh, PA, M.S. in Information Networking** 5/2017
  - Coursework: **Operating System Design and Implementation, Compiler Design**, Cloud Computing, Parallel Computing Architecture and Programming, Introduction to Computer Security, Computer Networks
- **Tongji University, Shanghai, China, B.E. in Software Engineering, Major GPA 4.86/5** 6/2014
  - Coursework: Compilers, Software Architecture and Design Patterns, Software Engineering
- **Queensland University of Technology, Brisbane, Australia, Visiting Student in Computer Science** 7/2013

## Skills

- **Languages:** C, Java, C++, C#, x86 Assembly, Python, HTML5, CSS3, JavaScript, OCaml, SQL, Clojure
- **Others:** Agile Software Development, Design Patterns

## Experience

- **Software Engineer Intern, Microsoft Corporation, Redmond, WA** 5-8/2016
  - Engineer on Microsoft Intune
- **Software Engineer (Overseas Intern), MoAA GmbH, Hamburg, Germany** 10/2013-5/2014
  - Developed a shipping company management web application [www.HansaCrew.net](http://www.HansaCrew.net)

## Academic Projects

- **An OS kernel inspired by Unix - Pebbles, Carnegie Mellon University** 2-4/2016
  - Designed and implemented a Unix-like Operating System kernel using C and x86 Assembly.
  - Implemented 24 important **system calls** including fork, exec, etc..
  - Supports highly preemptible multitask processing, efficient virtual memory management and the AMP model.
- **A C0 Compiler - c0c, Carnegie Mellon University** 7-12/2016
  - Designed a C0 compiler, implemented in OCaml.
  - Designed and implemented copying garbage collector runtime.
  - Integrated optimizations such as register coalescing, constant propagation and folding, copy propagation and dead code elimination, tail recursion optimization, etc..
- **A User level thread library, Carnegie Mellon University** 2/2016
  - Designed and implemented **mutex, conditional variables, semaphores and reader/writer locks** in C and x86 Assembly.
  - Designed and implemented a thread library including thread management calls.
- **A Graph-based task scheduling framework for parallel machines - Elixir, Carnegie Mellon University** 4-5/2017
  - Designed and implemented a scheduling framework for video processing pipelines using a dependency DAG.
  - Achieved a 6.15x speedup on FB Surround360 pano concat application with respect to Scanner

## Industry Projects

- **Microsoft Intune, Microsoft Corporation, Redmond, WA** 5-8/2016
  - Implemented a full-stack service using C# and TypeScript
- **Hackathon with Google Glass and HP, 1st Place @ Topcoder** 5-6/2014
  - Developed a Google Glassware using **Android SDK** which records sentences spoken, calls HP IDOL OnDemand **RESTful Web Service APIs** for sentiment analysis and generates graphs to present sentiment changes
- **[www.HansaCrew.net](http://www.HansaCrew.net), a Crewing Management Web Application, MoAA GmbH, Germany** 10/2013-5/2014
  - Developed the **back end** of application using C#, under ASP.NET MVC architecture utilizing NHibernate
  - Designed and implemented web **front end** using HTML5, LESS CSS and jQuery
  - Designed database schema and helped develop **stored procedures** using Microsoft SQL Server

## Awards and Honors

- 2,117 Reputation on **StackOverflow.com**, **top 18% overall** 2016
- Academic Scholarship, INI, Carnegie Mellon University 2015
- Honor of Outstanding Graduate, Tongji University, **top 3%** 2014
- Academic Scholarship, Tongji University, **top 3%** 2012-2014