

Vaarnan Drolia

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I build things.

Work Experience

Google Inc.

London, UK and Mountain View, California

Software Engineer, Android Wear

July 2016 - Current

- iOS/iPhone developer for building the interface between Android Wear smartwatches and iPhones
- Bluetooth Low-Energy, Android and iOS stack, battery and power efficiency, shipping apps in China
- Led several projects to launch Bluetooth LE network proxy, Google Pay, Calendar, Contacts and Location sync, monthly app releases, server controlled feature-flags
- Led team to a testing culture and focus on code health to move code coverage with tests from 0% -> 70%

Google Inc.

Zürich, Switzerland

Software Engineer, Search and Knowledge

November 2014 - July 2016

- Led several key improvements to Google Search results powered by data from the Knowledge Graph
- Led infrastructure advancements in Google Knowledge Graph data processing
- Tech Lead of Knowledge Understanding Verticals effort and fostered cross-company collaboration with teams in Android, YouTube to launch products for Google IO
- Deployed global scale project for region aware language interpretation, runs on every Google search to resolve ambiguities (eg. "Boots uk" vs "boots")

Google Inc.

Cambridge, Massachusetts

Software Engineering Intern, Play Magazines

May 2013 - August 2013

- Developed a new [Play Newsstand](#) client for [Android TV](#)
- Added APIs to the back-end services to support the new Android client
- Became proficient in a range of Google technologies such as ProtocolBuffers, Guice and Guava

National University of Singapore

Singapore

Teaching Assistant, Software Engineering

August 2012 - May 2014

- Guided 45 students in 11 teams (over three semesters) as they made their first real-world application
- Initiated classroom discussions on several topics such as code quality, software testing, design patterns

National University of Singapore

Singapore

Research Assistant, Data Mining and Visualization

May 2012 - July 2012

- Developed visualizations of Twitter and Facebook data using multi-level Tag Clouds with [d3.js](#)
- Deployed the back-end server on Apache Tomcat + Jersey and the Front-End on Heroku in PHP
- Integrated the Google Maps API to add location centric information to the data

IBM Corporation

Singapore

Software Engineer, Tivoli Division

May 2011 - July 2011

- Developed a command-line interface for the Tivoli Test Automation Framework using Python and Java
- Enabled QA to deploy servers and execute tests on remote worker machines without writing any code
- Converted Jython into CPython to improve speed and responsiveness by several orders of magnitude

Education

National University of Singapore

4.48/5.00 (GPA)

Bachelor of Computing (Honours) in Computer Science

August 2010 - May 2014

- Dean's List - Sem 2, 2012-13
- **Top 2%** in the Software Engineering course out of 250 students
- **Top Student** in the Computer Security course out of 80 students
- **Top 5%** in the Parallel and Distributed Algorithms course out of 60 students
- Singapore Airlines - Neptune Orient Lines Scholar

St. James' School

Higher Secondary Education, 96.25%

April 1997 - May 2010

- 100% in Computer Science for both 'A' and 'O' Level Equivalents
- 97.2% in Indian 'O' Level Equivalent (ICSE)

Project Papers

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|---|------|
| • Threads vs Events for Server Architectures | 2013 |
| • Enhancing NUSNET using Two-Factor Authentication | 2012 |
| • Analyzing Low Level Issues Relating to the Security of RFID/NFC Cards | 2012 |
| • Analysis of the BFS Scheduler in FreeBSD | 2011 |

Project Experience

HTML5 Applications

- LearnLobe - Digital Whiteboard with video-conferencing for students (using WebRTC)
- Kontitude - Conference organizer to manage event attendees using location and data services
- MysteryStory - Game which promotes innocuous learning of AED

iOS Applications

- KBuddy: iPad Karaoke application with a Ruby on Rails + MongoDB backend
- Huff n Puff: iPad "clone" of Angry Birds with the implementation of a Physics Engine

CS2103 (Software Engineering): Led a team of 4 to develop - [QuickToDo](#) Task Manager in Java

- Project inducted into the Hall of Fame for the course
- Developed natural language input, software updating and Google Calendar Integration

CS1101S (Programming Methodology):

- Offered to only 60 students in **MIT Scheme** language and placed 2nd in Robotics competition

Course Work

- **Parallel and Distributed Algorithms** - Byzantine consensus, Self-Stabilization, Non-blocking data structures, Mutual Exclusion, ABA Problem, OpenMPI, Matrix multiplication, Intel SIMD
- **Distributed Systems** - Voting and Consensus algorithms, RMI, Multicast, Gossip Protocols, Chord, Distributed Hash Tables, P2P Networks, Vector Clocks, Consistency Models
- **Security** - Explored attacks like buffer overflows, heap overflows, data fuzzing, XSS, CSRF and DoS Attacks, Vulnerability Scanners, ARP Poisoning and IP Spoofing, SQL and Code Injections
- **Machine Learning** - Inverse Document Frequency, Naive Bayes, Genetic Algorithms, Artificial Neural Networks, Gradient Descent

Tech Skills

- Java, Swift, Objective-C, Python, C++, C, Scheme, JavaScript, PHP, HTML5
- Experience with a wide range of operating systems in both Windows and Unix Environments

Awards and Accomplishments

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|---|------|
| • PyCon Asia - LucasFilm Top Student Programmer | 2012 |
| • Tata Consultancy Services IT Wiz Quiz - National Winner from 3.5 million participants | 2009 |

Academic and Service

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|---|---------|
| • Medal for Academic Excellence - National high school examination (ISC) | 2010 |
| • Bishop's Medal - Top Student National secondary school examination (ICSE) | 2008 |
| • Principal's Award for the Most Outstanding Pupil | 2009-10 |
| • C.V. Shunker Award for Integrity and Service | 2009-10 |
| • Reverend Canon Basil Manuel Award for the Best Scout | 2009-10 |