

# SOFIA KIM

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## EXPERIENCE

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### **NVIDIA**, GPU Management Software Engineering Intern

**Sept 2017 - Dec 2017**

Santa Clara, CA

- Implemented new features, bug fixes, and tools for GPU scheduler in DGX1, an integrated system for deep learning.
- Implemented mesos simulator to scale how much jobs/tasks the system can handle.
- Analyze and wrote a prototype for DGX1 OTA system with AWS codedeploy.
- Used: Python, Java, IntelliJ, Mesos, VisualVM, Apache JMeter, AWS codedeploy, Git, JIRA

### **NVIDIA**, System Software Engineering Intern

**Jan 2017 - Apr 2017**

Santa Clara, CA

- Implemented Voice Automation tool to test hotword recognition on SHIELD TV with manually selectable voice files from computer file system and SQLite3 database
- Implemented new features, bug fixes, and database transfer tools for the SHIELD Cloud OTA update system.
- Built new system testing framework with Docker and integrated with Jenkins + profiled OTA release service with performance test.
- Used: Python, Java, JavaScript, HTML, SQL, JUnit, IntelliJ, JHipster, VisualVM, Apache JMeter, Git, JIRA

### **PlacelQ**, Data Science Intern

**May 2016 - Aug 2016**

New York, NY

- Implemented MapReduce Connected Components in logarithmic rounds for big data — enhanced the execution time 12x faster for a month worth of data
- Raw data analysis for assessing quality (including sinks and ephemerals), cleansing, and structuring for downstream processing (including Big Data Pipelines) using **Map Reduce**
- Data analysis / evaluation for the accurate predictions of audience and behaviour and presented in charts, histograms, and maps based on the results
- Used: Scala, Spark, Scalding, Pig, Hadoop, Azkaban, Databricks, Jupyter Notebook, R, Python, Java, Git, JIRA

### **Intel Security (McAfee)**, Software Developer Intern

**Sept 2015 - Dec 2015**

Waterloo, ON

- Multithreaded / multiprocess development of Modularization projects and unit tests with Google test
- Implemented new features for Chromium module in C++ that communicates with Chromium applications and presented the examples of usage with sample Chromium applications using JavaScript, HTML, CSS, AngularJS
- Created functional test and multi-process performance test scripts, analyzing the result data with R
- Refactored / Restructured code to make it testable with Google test and increased code coverages to 90+%
- Used: C++11, Python, Visual Studio, SVN, Code Collaborator, Coverity, Rally, Windows API, TDD, Scrum

### **SAP**, Software Application Developer Intern

**Jan 2015 - Apr 2015**

Waterloo, ON

- Implemented Java chat application and iPhone to Arduino communicable iOS application using **IoT** protocol (MQTT)
- Built IoT (CoAP) home automation server using SAPUI5 - JavaScript, SQL Anywhere - SQL, Arduino - C, and Java
- Advanced CoAP library (SAPCoAP) feature implementation using C++
- Used: Objective-C, Xcode, Eclipse, P4V, libmosquitto, Eclipse Paho Java MQTT, MQTTKit, CoAP Californium

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## PROJECT

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### **FFmpeg Open Source Contribution**

**Nov 2016**

- Optimal Huffman encoding for (M)JPEG
- <https://github.com/FFmpeg/FFmpeg/commit/884506dfe2e29a5b2bd2905ca4f17e277e32acb1>

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## EDUCATION

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### **Candidate for Bachelor of Software Engineering, University of Waterloo (Class of 2018)**

**Sept 2013 - Present**

- Involved in **Velocity**, entrepreneurship program with University of Waterloo (Sept 2014 - Dec 2014)