Justin **Cheung**

SOFTWARE ENGINEER

 TODO | TODO | j43cheun.github.io | j43cheun | j43cheun

Technical Skills

Programming	C/C++, C#, PowerShell, Java, Python, Bash, Swift
Platforms	Windows, Linux, iOS
Development Tools	Git, WinDbg, VS Code, Visual Studio, Xcode, Selenium
Web	CSS, HTML, JavaScript, Vue.js

Experience

Microsoft Corporation   *Redmond, WA, USA*

SOFTWARE ENGINEER II - WINDOWS STORAGE SPACES DEV TEAM   *Sep. 2015 - Present*

- **Granular Repair**: Optimized in-place virtual disk repair (resilvering) on Storage Spaces Direct (S2D) clusters by implementing driver and metadata support for tracking stale data copies at stripe unit granularity (e.g., 256 KiB) vs. extent granularity (e.g., 1 GiB), which led to an order of magnitude reduction in runtimes (e.g., from hours to minutes).
- **Nested Resiliency**: Implemented driver support for deploying and managing virtual disks with node-mirrored mirror and node-mirrored parity resiliency configurations to enable virtual disks to tolerate 1 node + 1 drive failures on 2-node Storage Spaces Direct (S2D) clusters.
- **Diskstream**: Implemented a .NET Standard dynamic-link library (DLL) in C# to enable the HoloLens 2 emulator to modify the virtual machine disk image in user mode without requiring the disk image to be mounted on the host operating system.
- **Refdisk**: Prototyped an internal disk reflector driver to enable an arbitrary data store (e.g., file) to be mounted as a disk device on Windows.

Internships

Citigroup Inc.   *Mississauga, ON, Canada*

OPERATIONS TECHNOLOGY DEVELOPER   *Sep. 2013 - Dec. 2013*

- Automated an hourly bookkeeping workflow at Citigroup by implementing a small program in Java to scrape financial data from a website using Selenium and format the data to Excel spreadsheets, and deploying this program hourly using Jenkins. This effort ended up saving a bookkeeper over an hour a day otherwise spent entering the data by hand.
- Reduced time cost of validating Citigroup's Global Stock Record web app by automating black-box tests using Java and Selenium.
- Provided consultation to other developers to scale automated black-box tests to other Citigroup web apps.

Education

University of Waterloo   *Waterloo, Ontario, Canada*

BACHELOR OF APPLIED SCIENCE IN COMPUTER ENGINEERING   *Sep. 2010 - Apr. 2015*