

Dilraj Devgun

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github: github.com/Dilraj-Singh-Devgun | portfolio: thejarlid.github.io

EXPERIENCE

Software Engineer (HoloLens Firmware and Drivers Systems Team)

Microsoft | Redmond, WA | Aug 2019 - Present

- Developed firmware for the SoC and HPU which is a custom ASIC for the HoloLens, government IVAS project, and future VR/AR devices
- Helped integrate sensors, write drivers, and provide higher level APIs for consumers such as the Calibration, Tracking, and Vision teams
- Tripled frame rate for IVAS cameras by implementing a shared memory buffer pool library that was reusable across multiple sensors
- Inherited ownership and continued to develop a set of internal C++ tools used throughout the HoloLens stack to record sensor data into a custom binary file format alongside features to analyze, repair, and replay the data

Software Engineering Intern

Microsoft | Redmond, WA | Jun 2018 - Aug 2018

- Developed an Azure hosted web application to model service architectures using .NET Core, Angular, and C# while interning on the Universal Store Team

Operating System and Hypervisor Researcher

University of Washington CSE | Seattle, WA | Jan 2018 - Jun 2019

- Worked alongside Professor Tom Anderson to extend a Unix Operating System into a hypervisor that supports multiple paravirtualized guest OSes
- Designed and implemented a user-level thread system and privileged system calls to securely allow for one user level process to manage another user-level's pages

iOS Engineer

Freelance & Independent | Seattle, WA | Jun 2014 - Present

- Designed and developed a mobile app which Apple featured on the App Store as Best New App in Germany, Sweden and Austria
- Built a 3D model presentation tool using ARKit for designers at Vossler Media to provide engaging demonstrations of their work to their clients
- Decreased stroke patient screen time by >90% using an on-device decision tree on patient information to determine research trial eligibility
- Currently working on a cross platform application to provide a new productivity experience focused on mental and emotional clarity

EDUCATION

University of Washington

Seattle | Aug 2015 - Jun 2019

Bachelor of Arts and Science

Computer Science

GPA: 3.75

AWARDS

Best New App Feature by Apple
Annual Dean's List ('16, '18, '19)

TEACHING

CSE 451 Operating Systems

CSE 143 Intro. to CS

PROJECTS

Citrus Motivational Task Manager (iOS)
L1 Optimal Path Video Stabilizer (Python)
Image Processing Library (C/C++)
Panorama Stitching (C/C++)
Paxos Key/Value Store (Java)
Meraki (Current project, iOS and Web)

PROGRAMMING SKILLS

iOS Development
Swift
Objective-C
Java
C/C++
C#
Python
Embedded Systems
Firmware and Driver Development
Operating Systems
MYSQL
Systems Development
Web Development
ML/AI/CV Fundamentals