

Ilhan Mohammed Raja Age 19

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Texas A&M - Engineering Honors (Computer Science) 2020
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Software Projects

<http://github.com/YungRaj/>

Cydia: <http://yungraj.github.io>

Objective

- Aspires to become a kernel engineer, firmware developer, processor architect, software security engineer for OS vulnerability research or general software engineer

Skills

- Extensive research on the BIOS and UEFI specification as well as projects dedicated to them (CoreBoot, Tianocore, Clover, Chameleon, and GRUB)
- Performed personal research with kernel engineering (XNU, IOKit, BSD, and Linux) as well kernel reverse engineering for security purposes (iOS and macOS)
- Participated in development on an application utilizing a Graphics Library for 2D rendering such as SpriteKit and OpenGL
- Has done academic studies on computer architecture/hardware, embedded systems and firmware in free time in addition to standard education
- Knows approximately 7 programming languages, namely lower level machine dependent languages such as Objective C(++), and x86/ARM Assembly
- Excellent troubleshooting skills at analyzing code and engineering effective solutions, extremely quick to adapt to a new environment

Programming Languages

Proficient in C, C++, Objective C, x86/ARM Assembly, Java

Moderate in Swift, Bash scripting and ACPI Machine Language

Experience

Developing for BIOS and UEFI - Software Development

May 2014 - Present

- Use x86/ARM assembly and C to write lower level startup machine code for modern machines
- Conform to the specification of the firmware interfaces and utilize the resources to help implement software projects such as Clover Chameleon and GRUB
- Review open source firmware implementation of UEFI via CoreBoot + Tianocore, using EDK 2 tools which also include the ACPI power and configuration interface

iOS Reverse Engineering and Jailbreaking

November 2015-Present

- Reverse engineering iOS kernel, binaries and firmware dumps using IDA Pro, Hopper or class-dump through dynamic and static analysis of assembly level instructions and API/ABI's
- Inject into system processes and applications using the Mobile Substrate library using the Theos development tools and reverse engineering exploration (<http://github.com/DHowett/theos>)
- Implemented a Mobile Substrate tweak for the Snapchat application that notifies the user if a snapchat streak is going to be over and provides UI hooks into the Application now on Cydia (github)

OSX86

October 2013 - Present

- Participated in a hobby project dedicated to installing OS X on a non-Apple Intel and AMD machines called OSX86

- Worked with lower level API's in OS X and iOS such as IOKit, Mach, BSD, SpringBoard, Cocoa, and Core Foundation to support the OSX86 ecosystem
- Vastly skilled in Unix-based environments (bash/shell scripting)
- Supported the community by providing advanced technical support in an IRC chat
- Shared full set instructions to install OS X with binary patches, setup instructions and shared ACPI patches and tables such as the DSDT, SSDT and others on github (<http://github.com/ilhanraja/XPS-13-9350-OS-X>)

Application Development (iOS and Android)

May 2013 - Present

- Use Xcode and Android Studio to write applications in Java and Objective C(++)
- Utilize the frameworks such as UIKit, SpriteKit, SceneKit, Foundation, CoreFoundation, AppSupport, BulletinBoard, CoreGraphics, CoreAnimation and many more to build complete products
- Developed This is the End for the iPhone (github)

Extracurriculars

TAMU CyberSecurity Club

July 2016 - Present

- Collectively learn reverse engineering, software security through the static and dynamic analysis tools such as OllyDbg, IDA Pro, Hopper, and the command line utility class-dump
- Participate in code hacks such as the NSA codebreaker and Microsoft coding competition

Future Business Leaders of America

September 2014 - Present

- Created This-is-the-End for iOS, an almost complete product of the SpriteKit/UIKit game, presented the project got 4th place in the state competition for FBLA in Houston, TX

Service

The Citizen's Foundation

30 hours: Feb 2012 - March 2014

- Actively participated as a member of the local chapter of a national Non Government Organization to provide funds for schools in the underprivileged parts of Pakistan
- Volunteered for the local charity and enticed donations to those interested in the organization

Al Farouq Mosque Community

25 hours: Jan 2012 - May 2015

- Helped children learn the Koran
- Scheduled social events and gatherings
- Participated in organized sports (extracurricular) events

Education

Cypress Ranch High School Class of 2016

Cypress, Texas 77433

- GPA: 3.67
- Summa Cum Laude
- Perfect GPA during Junior Year

Awards

- HGA Golf Tournament Champion, June 2013
- AP Scholar Award, June 2014
- UIL Scholar Award, 2016